

Publications

Indian Patents:

Granted:

Ravi Prakash Tewari, Ramesh Pandey, Ashutosh Mishra, Abhishek Kumar Tiwari, Sajal Kumar Babu Degala, A smart temperature measuring system with minimal human intervention: Application No.: 202111020581 (**Patent No.: 538361 Grant dated 16/05/2024**).

Filed:

1. Ashutosh Mishra, Ramesh Pandey, Dwijendra Dubey. A flame-retardant spacer for battery module and a method of preparation thereof. (Patent Application No.: 202411076423, (Filed on **09/10/2024**)
2. A smart dustbin to manage domestic waste- Application no. 201911035770 (Published dated **27/08/2021**)

Book:

Singh, D. K., Mishra, A., & DK/Hegde Singh (Shrira). (2023). Recent Developments in Mechanics and Design (Doctoral dissertation, School of Mechanical Engineering, Shanghai Jiao Tong University, Shanghai, China).

Book Chapter:

1. **Mishra, A.**, Tiwari, A. K., Kumar, R., & Ashraf, W. (2022). Macro-Mechanical Modeling of 3D Printed Material. In Additive, Subtractive, and Hybrid Technologies (pp. 129-148). Springer, Cham.
2. Sharma, P., Pal, P., **Mishra, A.**, Bhandwal, M., Sharma, A. (2019). A Novel System for Exhaust Emission Reduction of Diesel Engine by Using Electrochemical Technique. In: Saha, P., Subbarao, P., Sikarwar, B. (eds) Advances in Fluid and Thermal Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-13-6416-7_23.

Journal papers:

1. Shukla, V., **Mishra, A.**, Kumar, A., & Tewari, R. P. (2025). Geometry-Dependent Dynamic Impact Behavior of Lithium-Iron Phosphate Batteries at Different Velocities: An Experimental and Numerical Approach. *Energy Technology*, 2402197. **(Q1)** (Accepted)
2. Dubey, D., **Mishra, A.**, Shriyan, H. C., Pratap, T., & Pandey, R. (2024). Improved Thermal Management of Lithium-Ion Battery Module through Microtexturing of Serpentine Cooling Channels. *Energy Technology*, 12(5), 2301253. **(Q2)**
3. Vineet, **Mishra, A.**, Tiwari, A. K., Roy, S. C., Naveena & Goyal, S. (2024). Experimental and numerical study on the fatigue behaviour of pre and post heat treated additively manufactured SS 316L specimens. *Engineering Failure Analysis*, 164, 108605. **(Q1)**
4. Pandey, D., Pandey, R., **Mishra, A.**, & Tewari, R. P. (2024). Effect of Printing Temperature on Fatigue and Impact Performance of 3-D Printed Carbon Fiber Reinforced PLA Composites for Ankle Foot Orthotic Device. *Mechanics of Composite Materials*, 1-12. **(Q3)**
5. **Mishra, A.**, & Singh, K. (2021). Radiation damage modeling of austenitic steels for cyclic loading. *Materials Today: Proceedings*, 43, 298-302. **(Scopus)**.

6. Subrata G., Sushant K.B., **Mishra, A.**, Carlo, S.C, & Kostya, K. (2023). Ostrikov, Quantum Capacitance of Two-Dimensional-Material-Based Supercapacitor Electrodes. *Energy & Fuels*. **(Q1)**
7. Dubey, D., **Mishra, A.**, Ghosh, S., Reddy, M. V., & Pandey, R. (2023). Geometry-influenced cooling performance of lithium-ion battery. *Applied Thermal Engineering*, 230, 120723. **(Q1)**
8. Shukla V, **Mishra A**, Sure J, Ghosh S, Tewari RP. (2023). Size-dependent failure behavior of commercially available lithium-iron phosphate battery under mechanical abuse. *Process Saf Prog.*,1-12. **(Q3)**
9. Shrivastava, N. V., Badhyal, S., Tiwari, A. K., **Mishra, A.**, Tripathi, D., & Patil, S. (2023). Computation of Physiological Loading induced Interstitial Fluid Motion in Muscle Standardized Femur: Healthy vs. Osteoporotic Bone. *Computer Methods and Programs in Biomedicine*, 107592. **(Q1)**
10. Mertiya, A. S., Tiwari, A. K., **Mishra, A.**, Main, R. P., Tripathi, D., & Tiwari, A. (2023). Computational modeling for osteogenic potential assessment of physical exercises based on loading-induced mechanobiological environments in cortical bone remodeling. *Biomechanics and Modeling in Mechanobiology*, 22(1), 281-295. **(Q1)**
11. Ahmad, T., **Mishra, A.**, Ghosh, S., & Casari, C. S. (2022). Identifying Efficient Cooling Approach of Cylindrical Lithium-Ion Batteries. *Energy Technology*, 10(2), 2100888. **(Q2)**.
12. Kumar, R., Tiwari, A. K., Tripathi, D., & **Mishra, A.** (2022). Electromagnetic field induced alterations in fluid flow through lacuno-canalicular system of bone. *International Journal of Mechanical Sciences*, 217, 107036. **(Q1)**
13. Kala, S., **Mishra, A.**, & Shukla, V. (2020). Battery technologies and its future prospects. *J. Indian Chem. Soc*, 97(10a), 1683-1687. **(Q4)**.
14. Kala, S., & **Mishra, A.** (2021). Battery recycling opportunity and challenges in India. *Materials Today: Proceedings*, 46, 1543-1556. **(Scopus)**.
15. **Mishra, A.**, Chellapandi, P., Kumar, R. S., & Sasikala, G. (2015). Effect of frequency of free level fluctuations and hold time on the thermal ratcheting behavior. *International Journal of Pressure Vessels and Piping*, 129, 1-11. **(Q2)**
16. **Mishra, A.**, Chellapandi, P., Suresh Kumar, R., & Sasikala, G. (2015). Effect of Temperature Rate Term while Predicting Thermal Ratcheting of a Thin Cylinder due to Cyclic Temperature Variation. *Transactions of the Indian Institute of Metals*, 68, 161-169. **(Q2)**
17. **Mishra, A.**, Chellapandi, P., Suresh Kumar, R., & Sasikala, G. (2015). Comparative study of cyclic hardening behavior of SS 316L using time independent and dependent constitutive modeling: A simplified semi-implicit integration approach. *Transactions of the Indian Institute of Metals*, 68, 623-631. **(Q2)**
18. **Mishra, A.**, Suresh Kumar, R., & Chellapandi, P. (2014). Progressive deformation behaviour of thin cylindrical shell under cyclic temperature variation using Combined Hardening Chaboche Model. *Latin American Journal of Solids and Structures*, 11, 980-992. **(Q2)**
19. **Mishra, A.**, , Suresh Kumar, R., Chellapandi, P., & Sasikala, G., (2018). Temperature rate dependent modelling of thermal ratcheting behaviour. *Journal of Structural Engineering (JOSE)*; 45, 1, 67-74. **(Scopus)**.
20. **Mishra, A.**, Suresh Kumar, R., Sasikala, G., & Chellapandi, P., (2014) Influence of the frequency of level fluctuations with reference to progressive deformation of thin cylindrical shell. *Procedia Engineering*; 86:95 –102. **(Scopus)**

21. **Mishra, A.**, Suresh Kumar, R., and P. Chelipeds, P., (2014). Time dependent ratcheting of thin cylindrical shell due to axial temperature variation using visco-plastic model. *International Journal of Engineering and Technology*: 6: 234-237. (**EI-Inspec**).

Conference in Foreign country:

1. Zainab Momin, **A. Mishra** and Abhishek Kumar, Design modification of cooling channel for improved cooling of lithium-ion batteries. The 64th Battery Symposium in Japan, November 28-30, 2023, **Osaka, Japan (Physical Mode)**.
2. Dwijendra Dubey, **A. Mishra**, Ramesh Pandey, Thermal runaway and heat propagation analysis of lithium-ion batteries under different abuse conditions. The 64th Battery Symposium in Japan, November 28-30, 2023, **Osaka, Japan (Physical Mode)**.

Conference in India:

3. Dwijendra Dubey, **A. Mishra**, Ramesh Pandey. Optimization of micro-texturing feature for the improved thermal management of lithium-ion battery module. 2nd International Meeting on Energy Storage Devices (IMESD), 7-10 Dec 2023, IIT Roorkee.
4. Zainab Momin & **A. Mishra**. Thermal runaway analysis of lithium-ion battery due cell-to-cell heat propagation. Indian Conference on Applied Mechanics (INCAM 2022), November 11-13, 2022, NIT Jamshedpur.
5. Akansha Pandey & **A. Mishra**. Analysing the thermal behaviour of fuel cells at different ambient condition. Indian Conference on Applied Mechanics (INCAM 2022), November 11-13, 2022, NIT Jamshedpur.
6. Vishesh Shukla, **A. Mishra**, R.P.Tewari. Experimental analysis of failure progression of Lithium ion battery under lateral and longitudinal compression. Advancements in Interdisciplinary Research (AIR-2022). May 6-7, 2022, MNNIT Allahabad.
7. Dwijendra Dubey, **A. Mishra**, Taufeeq Ahmad, Ramesh Pandeya. Influence of geometry changes on the cooling performance of Lithium ion battery. Advancements in Interdisciplinary Research (AIR-2022). May 6-7, 2022. MNNIT Allahabad.
8. Vineet, Priyanshu Gupta, **A. Mishra**, Abhishek Kumar Tiwari and Naveen. Effect of heat treatment on the time dependent behavior of 3D printed SS-316L specimen. Indian Conference on Applied Mechanics (INCAM 2022), November 11-13, 2022, NIT Jamshedpur.
9. M. Zubairuddin, S. K. Albert, M. S. Reddy, B. Ali, B. Varaprasad, **A. Mishra**, P. K. Das & P. V. Elumalai. Thermal Analysis of Thin Grade 91 steel using FlexPDE and SYSWELD. 2nd International Conference & Exposition on Advances in Mechanical Engineering (ICAME-2022), June, 23-25, 2022. College of Engineering Pune (COEP).
10. Shashi Kala, **A. Mishra**, Vishesh Shukla (2020). Battery Technologies and its future prospects. Energy and Environmental Technologies for Sustainable Development (CHEM-CONFLUX2020), Feb 14-16, 2020. MNNIT Allahabad.
DOI: 10.5281/zenodo.5657123
11. Henry Isaac, **A. Mishra**, And Abhishek Kumar Tiwari. Computational assessment of inter vertebral disc bulging with postural change. Indian Conference on Applied Mechanics (INCAM 2019), July, 3-5, 2019, IISc Bangalore.

12. **A. Mishra**, R. Suresh Kumar, G. Sasikala and P. Chellapandi. Temperature rate dependent modelling of thermal ratcheting behaviour. Indian Conference on Applied Mechanics (INCAM 2017), July 5-7, 2017, MNNIT, Allahabad.
13. **A. Mishra**, R. Suresh Kumar, G. Sasikala and P. Chellapandi. Significance of thermo-mechanical interaction in thermal ratcheting behavior. 7th International Conference on Creep, Fatigue and Creep fatigue Interaction (CF-7), January 19-22, 2016, Indira Gandhi Centre for Atomic Research, Kalpakkam, India
14. **A. Mishra**, P. Chellapandi, R. Suresh Kumar and G. Sasikala. Effect of Temperature Rate Term while Predicting Thermal Ratcheting of a Thin Cylinder due to Cyclic Temperature Variation. International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (ISRS-2014), Dec-11-12, 2014, IITM, India.
15. **A. Mishra**, R. Suresh Kumar, G. Sasikala and P. Chellapandi. Influence of the frequency of level fluctuations with reference to progressive deformation of thin cylindrical shell. First International conference on Structural Integrity (ICONS-2014), Feb-4-7, 2014, IGCAR, Kalpakkam.
16. **A. Mishra**, R. Suresh Kumar and P. Chellapandi. Shakedown study of thin cylindrical shell due to moving temperature distribution using Combined Hardening Chaboche Model. Indian Conference on Applied Mathematics (INCAM 2013), 4th-6th July 2013, IIT Madras, India.
17. **A. Mishra**, R. Suresh Kumar and P. Chellapandi. Simulation of Thermal Ratcheting of thin cylindrical shell due to moving temperature distribution using Combined Hardening Chaboche Model. International Conference on Pressure Vessel and Piping (OPE 2013), 13th-16th February, 2013, IGCAR, Mamallapuram, Chennai, India.