

LIST OF PATENTS AND PUBLICATIONS

PATENTS

1. *"Magnetorheological finishing tool with electromagnet cooling"* Indian Patent No. 490546 [Granted on 28th December, 2023]
2. *"System for supplying polishing fluid"* Indian Patent No. 468576 [Granted on 13th November, 2023]
3. *"A system and method to control a pneumatic medical bed through electroencephalography signals"* Indian Patent Application No. 202231048536 [Filed: 25th August, 2022 and Published: 09th September, 2022]
4. *"System and method for flexible honing of internal surface of elongated cylindrical workpiece longitudinally"* Indian Patent Application No. 202231011033 [Filed: 01st March, 2022]
5. *"Multi-magnet tool for improved magnetorheological finishing"* Indian Patent Application No. 202111026033 [Filed: 11th June, 2021 and Published: 12th August, 2022]
6. *"Surya Stree: A battery free solar iron press and the heating system thereof"* Indian Patent Application No. 202011040479 [Filed: 18th September, 2020 and Published: 19th October, 2020]

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1. S. Maheshwari, **Z. Alam**, and Sarthak S. Singh, *"Investigating the large strain compression properties of PLA parts manufactured by FDM using experiments and constitutive modeling"* *Rapid Prototyping Journal*. [2024]
2. S. Maheshwari, A. Kar, **Z. Alam**, and L. Kumar, *"Deep neural network-based approach for modeling, predicting, and validating weld quality and mechanical properties of friction stir welded dissimilar materials"* *JOM*, 75/11, pp: 4562-4578. [2023]
3. F. Iqbal, **Z. Alam**, D.A. Khan and S. Jha, *"Automated insular surface finishing by ball end magnetorheological finishing process"* *Materials and Manufacturing Processes*, 37/4, pp: 437-447. [2021]

4. F. Iqbal, **Z. Alam** and S. Jha, "Modelling of transient behaviour of roughness reduction in ball end magnetorheological finishing process" *International Journal of Abrasive Technology*, 10/3, pp: 170-192. [2020]
5. **Z. Alam**, D.A. Khan and S. Jha, "MR fluid-based novel finishing process for nonplanar copper mirrors" *International Journal of Advanced Manufacturing Technology*, 101/1-4, pp: 995-1006. [2019]
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8. F. Iqbal, **Z. Alam**, D.A. Khan and S. Jha, "Constant work gap perpetuation in ball end magnetorheological finishing process" *International Journal of Precision Technology*, 8/2-4, pp: 397-410. [2019]
9. D.A. Khan, **Z. Alam**, F. Iqbal and S. Jha, "Experimental investigations on the effect of relative particle sizes of abrasive and iron powder in polishing fluid composition for ball end MR finishing of copper" *International Journal of Precision Technology*, 8/2-4, pp: 354-364. [2019]
10. **Z. Alam**, D.A. Khan, F. Iqbal and S. Jha, "Effect of polishing fluid composition on forces in ball end magnetorheological finishing process" *International Journal of Precision Technology*, 8/2-4, pp: 365-378. [2019]
11. **Z. Alam**, D.A. Khan and S. Jha, "A study on the effect of polishing fluid volume in ball end magnetorheological finishing process" *Materials and Manufacturing Processes*, 33/11, pp: 1197-1204. [2018]
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2. S. Maheshwari, A. Siddharth and **Z. Alam**, “*Control of pneumatically actuated hospital bed using EEG signal*” **2nd International and 14th National Conference on Industrial Problems on Machines and Mechanisms (IPRoMM)**, Indian Institute of Technology (Indian School of Mines) Dhanbad, India. [22nd & 23rd December, 2022]
3. **Z. Alam**, D.A. Khan, F. Iqbal and S. Jha, “*A theoretical and experimental study on forces in ball end magnetorheological finishing process*” **8th International and 29th All India Manufacturing Technology, Design and Research (AIMTDR) Conference**, PSG College of Technology, India. [9th - 11th December, 2021]
4. M. Osama, F. Iqbal, D.A. Khan and **Z. Alam**, “*Design and development of novel multipoint epicyclic superfinishing tool*” **International Conference on Industrial and Manufacturing Systems (CIMS)**, NIT Jalandhar, India. [9th - 11th October, 2020]
5. M.O. Qidwai, F. Iqbal and **Z. Alam**, “*Thermal analyses of ball end magnetorheological finishing tool*” **International Conference on Industrial and Manufacturing Systems (CIMS)**, NIT Jalandhar, India. [9th - 11th October, 2020]
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2. F. Iqbal, **Z. Alam** and D.A. Khan, “*Additive Manufacturing and Post-processing: An Introduction*” In: Z. Alam, F. Iqbal and D.A. Khan (ed) **Post-processing Techniques for Additive Manufacturing**, CRC press. [2023]
3. **Z. Alam**, F. Iqbal and S. Jha, “*Modeling and analysis of forces and finishing spot size in ball end magnetorheological finishing (BEMRF) process.*” In: A. Pramanik (ed) **Machining and Tribology: Processes, Surfaces, Coolants, and Modeling**, Elsevier. [2022]
4. F. Iqbal, **Z. Alam**, M. Shukla, J. Malhotra and S. Jha, “*Transforming standalone machine tool to a cyber-physical system: A use case of BEMRF machine tool to tackle COVID-19 restrictions*” In: T. Semwal and F. Iqbal (ed) **Cyber-Physical Systems: Solutions to Pandemic Challenges**, CRC press. [2022]
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1. F. Iqbal, D.A. Khan and **Z. Alam**, “*Nanofinishing of Materials for Advanced Industrial Applications*” CRC press. [In-press, to be published in June 2024]
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