

## LIST OF PUBLICATIONS

**Faculty: Dr Manjesh Kumar**

**Department of Mechanical Engineering**

### JOURNAL PUBLICATIONS

Magnetorheological-finishing of miniature gear teeth profiles using uniform flow restrictor - **M. Kumar**, S. Ahmad, and M. Das - Mater. Manuf. Process – 37 (11), 467-482, (2021)

Experimental and simulation study of magnetorheological miniature gear-profile polishing (MRMGPP) method using flow restrictor - **M. Kumar**, A. Alok, and M. Das - J. Mech. Sci. Technol. 35 (11), (2021)

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Improvement in surface characteristics of SS316L tiny gear profiles by magnetorheological-polishing fluid using flow restrictor - **M. Kumar** and M. Das - Trans. Indian Inst. Met. - 74, (2021)

Study of surface finishing mechanism in a rotational-magnetorheological miniature gear profile polishing using novel flow restrictor - **M. Kumar**, R. K. Bharti, and M. Das – Wear - 488 (10), 204120, (2022)

Advanced abrasive-based nano-finishing processes: challenges, principles and recent applications - **M. Kumar**, A. Alok, V. Kumar, and M. Das - Mater. Manuf. Process – 37, 372-392, (2021)

Magnetorheological finishing of small gear teeth profiles using novel workpiece fixture **M. Kumar**, A. Kumar, A. Alok, and M. Das - J. Eng. Res. – 9 (3), 1–15, (2021)

Effect of optimum process parameters in rotational-magnetorheological poppet valve polishing - **M. Kumar**, and M. Das - Mater. Manuf. Process – 37, 393-406, (2022)

Recent advancements in advanced abrasive-based nano-finishing processes for biomedical components - **M. Kumar**, A. Alok, and M. Das - Trans. Indian Inst. Met.- (2022) (Accepted)

Performance evaluation of rotational-magnetorheological glass-ceramic polishing (R-MRGP) process setups - **M. Kumar**, and M. Das - Arab. J. Sci. Eng. - 47, 15, (2022)

Impact of different magnetorheological fluid compositions on poppet valve profile polishing - **M. Kumar**, and M. Das - Prec. Eng. -76, 75-87, (2022)

Effect of optimum process parameters on material removal in rotational-magnetorheological miniature gear profile polishing (R-MRMGPP) process - **M. Kumar**, M.

Das and Nan Yu - Journal of the Brazilian Society of Mechanical Sciences and Engineering – 44, 16-32, (2022)

Surface roughness simulation during rotational–magnetorheological finishing of poppet valve profiles - **M. Kumar**, M. Das and Nan Yu - Nanomanufacturing and Metrology – (2022)

An overview of magnetorheological polishing fluid applied in nano-finishing of components - **M. Kumar**, H. N. S. Yadav, A. Kumar, and M. Das - J. Micromanufacturing – 3 (5), 1–19, (2021)

CFD analysis of MR fluid applied for finishing of gear in MRAFF process - **M. Kumar**, V. Kumar, A. Kumar, H. N. S. Yadav, and M. Das - Mater. Today Proc. – 45 (3), 1–7, (2021)

Plasma polishing method applied on optical materials: A review - H. N. S. Yadav, **M. Kumar**, A. Kumar, and M. Das - J. Micromanufacturing – 3 (5), 70–80, (2021)

Abrasive based finishing method applied on biomedical implants: A review - **M. Kumar**, A. Kumar, H. N. S. Yadav, A. Alok, and M. Das - Mater. Today Proc. - 45 (5), 60–70, (2021)

Magnetorheological method applied to optics polishing: A review - **M. Kumar**, A. Kumar, A. Alok, and M. Das - IOP Conf. Ser. Mater. Sci. Eng. – 804 (01), 12–13, (2020)

Effect of tool rotation on the fabrication of micro-tool by electrochemical micromachining - A. Kumar, **M. Kumar**, H. N. S. Yadav, and M. Das - J. Micromanufacturing – 3 (5), 2–20, (2021)

A review on rheological properties of magnetorheological fluid for engineering components polishing - **M. Kumar**, A. Kumar, R.K Bharti, H.N.S Yadav and M. Das - Mater. Today Proc. – 47 (6), 4675-4688, (2021)

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COMSOL simulation of microwave plasma polishing on different surfaces - H. N. S. Yadav, **M. Kumar**, A. Kumar, and M. Das - Mater. Today Proc. - 45 (15), 1–7, (2021)

Fabrication of microtool for micromachining: A review - A. Kumar, **M. Kumar**, A. Alok, H. N. S. Yadav, and M. Das - Mater. Today Proc. – 45 (5), 71–81, (2021)

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Synthesis and Characterization of Sintered Magnetic Abrasive Particles having Alumina and Carbonyl Iron Powder - A. Alok, M. S. Niranjana, A. Kumar, **M. Kumar**, and M. Das - IOP Conf. Ser. Mater. Sci. Eng. – 804 (01), 2002, (2020)

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Surface roughness simulation during rotational -magnetorheological finishing of poppet valve profiles - **Manjesh Kumar**, Manas Das & Nan Yu - nanomanufacturing and metrology.(2022) [IF:3.78] <https://doi.org/10.1007/s41871-022-00144-8>

Experimental and theoretical analysis of material removal in poppet valve magnetorheological finishing - **Manjesh Kumar**, Chandan Kumar, Amit Kumar, Debashish Gogoi, Manas Das - Journal of Process Mechanical Engineering. (2022) [IF:1.82] <https://doi.org/10.1177/09544089221139102>

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Material removal analysis during MR polishing of complex gear teeth profile - Debashish Gogoi, **Manjesh Kumar**, Yella Gruha Lakshmi - Bioenergy research. (2023) [IF:3.84] <https://doi.org/10.1007/s12155-023-10568-9>

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Magnetorheological finishing of small gear teeth profiles using novel workpiece fixture - **Manjesh Kumar**, Abhinav Kumar, Anupam Alok and Manas Das - International conference on Computational & Experimental Methods in Mechanical Engineering, ICCEMME-2021 - G.L. Bajaj Institute of Technology & Management, Greater Noida - 11th – 13th February (2021)

Abrasive based finishing method applied on biomedical implants - **Manjesh Kumar**, Abhinav Kumar, Anupam Alok, H.N.S Yadav and Manas Das - International conference on Computational & Experimental Methods in Mechanical Engineering, ICCEMME-2021 - G.L. Bajaj Institute of Technology & Management, Greater Noida - 11th – 13th February (2021)

CFD analysis of MR fluid applied for finishing of gear in MRAFF process - **Manjesh Kumar**, Vikash Kumar, H.N.S Yadav, Abhinav Kumar, Manas Das - International Conference on Aspects of Materials Science and Engineering, ICAMSE2021 - Punjab university, Chandigarh - 5th – 6th March (2021)

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### **BOOK CHAPTERS**

Numerical Analysis of Machining Forces and Shear Angle During Dry Hard Turning - A. Alok, A. Kumar, **M. Kumar**, M. Das and K.K Gajrani - Advances in Sustainable Machining and Manufacturing Processes - ISBN: 9781032081656 - CRC Press (Taylor & Francis)- (2022)

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Gear profile polishing using rotational magnetorheological abrasive flow finishing process - **M. Kumar**, A. Kumar, H.N.S Yadav, and M. Das - Recent Advances in Mechanical Engineering - ISBN: 978-981-15-7711-6 Springer – (2022) (Accepted)

Fundamentals of Plasma polishing - H.N.S Yadav, **M. Kumar**, and M. Das - Advanced machining Science - ISBN: 9781482211092 - CRC Press (Taylor & Francis) – (2022)

Effect of tool rotation on electrochemical milling of stainless steel 316L - A. Kumar, **M. Kumar**, H.N.S Yadav and M. Das - Recent Advances in Mechanical Engineering - ISBN: 978-981-15-7711-6 - Springer – (2022) (Accepted)

### **PATENTS**

An arrangement for polishing poppet valve by magnetorheological fluid-based finishing process - **Manjesh Kumar** and Manas Das - Indian Patent - Application Number: 202131013271 - Patent Published.

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An arrangement for uniform polishing of narrow complex profiles of miniature gear - **Manjesh Kumar**, Anwesa Barman and Manas Das - Indian Patent - Application Number: 202131049403 - Patent Published.

A polishing tool arrangement for uniform polishing the knee implant - Anwesa Barman, **Manjesh Kumar** and Manas Das - Indian Patent - Application Number: 202131039307 -Patent Published.