



Dr. Sumita Chaturvedi, PhD
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PROFILE

Dr. Sumita Chaturvedi is an Associate Professor in the Department of Mechanical Engineering at Integral University, Lucknow, India, with over 12 years of teaching and research. She also served as an Assistant professor in the Department of Mechanical Engineering from 2014 to 2023. She is teaching graduate and postgraduate courses in Mechanical Engineering, developed a diverse teaching record as she has taught more than 10 subjects of Mechanical Engineering/ Mechatronics in both undergraduate and graduate courses, as well as lab sections. Dr. S Chaturvedi has authored over 15 research papers in reputed international journals and conferences, including Scopus and SCI, edited a book titled Welding Technology, and contributed to 7 book chapters. She has published/ granted four patents. She has completed her Ph.D. in 2022, focusing on "Lubrication Analysis of Metal-on-Metal Hip Implants." Her research involved developing a Finite Element Simulation of these implants to analyze various performance aspects, aiming to improve the understanding of hip implant simulations. She is the expert of CIM & FANUC Robot Programming and flexible manufacturing techniques.

RESEARCH INTEREST:

- Flexible Manufacturing System (FMS)
- Fanuc Robot Programming
- Automated Storage and Retrieval Systems (ASRS)
- CNC Machines
- Laser Machines
- Computer Integrated Manufacturing (CIM) Automation
- Design & Development (Machine Design)
- Additive Manufacturing (3D Printing)
- Renewable Energy
- Bio-composite Materials
- Advanced Welding Technology (EDM & MIG)
- Tribology
- Production & Industrial Engineering.

SUMMARY OF RESEARCH ACCOMPLISHMENT:

- Number of publications in SCI indexed journals :04
- Number of publications in Scopus indexed journals : 04
- Number of publications in Non-Sci/Scopus but Peer Reviewed :10
- Number of publications in International Conferences : 05
- Book Chapters : 05
- Presentation in international conferences :04
- The referee for various scientific journals :04
- Citations : 17
- H index : 02
- Patent :04

COURSE TAUGHT:

- CAD&CAM
- Advance Welding Technology
- Project Management
- Machine Design
- AutoCAD
- Material Science
- Industrial Ergonomics
- Additive Manufacturing

ADMINISTRATIVE/DEPARTMENTAL RESPONSIBILITY

- Course Coordinator
- FMS Lab Incharge
- Departmental Criteria III Incharge DQAC
- Member of Women Study Center, Integral University Lucknow
- Member of Integral Social Services (IUSS)
- Board of Study member in the department

STUDENTS SUPERVISION

B.Tech:

- Raihan Ahamd, Rushan Ahmad Khan, Amir Khan, Mirza Juned Beig (2024 Ongoing), Customized3d Prosthetic Hand
- Harsh Srivastva, Adarsh Patel, Abu Talha ,2023 Claw (Robotics Hand)- The Helper In Manufacturing Industry.
- Ankit Kumar Singh 2021 Stress Analysis On Spur Gear Using Ansys.

- Ekramullah, Danish Khan, Danish Anis Beg, 2018 Hydraulic Floor Crane
- Taoseef Ahamd, Basit Imran Khan, Md Hamza Khan, 2018 Design & Fabrication Of A Hybrid Air Coolar
- M.Qazzafi, Noor Ahmad, Afseer-UI- Haque, 2018 Design And Fabrication Of Mini Cnc Plotter Machine
- Mohd. Zaid, Khan, Mohd, Sadique, Mohd Saif, 2018 Gas-Kit For Two Wheeler
- Faizan, Manish Kumar, Gaurav Chaturvedi, Asif Husaain Quasmi, 2017 Design & Construction Of Hydraulic Scissors Lift.
- Rituraj Maurya, Shivam Yadav, Syed, Sheeraz Ahmad, 2019 Design & Working Model Of Hoverboard
- Mohd. Apsar Khan, Md Raiyan, Mohd. Aquib 2019 Smart Solar Grass Cutter
- Md. Sajid, Mohd Siddique, Alfaiz Khan, 2019 Pedal Powered Water Purifier Showing Reverse Osmosis
- Farhan, Mohammad Saquib, Mohd, Aquil Niyazi, Mohammad Yusuf Abbasi, 2017 Automatic Gate Opening System
- Shahban Ahmad Siddiqui, Wasim Akram, Shaqueeb Azad Khan, Rohit kumar singh, 2017 Solar Energy For Cooling

M .Tech:

- Rudra Devraj, 2023 Optimization Of Thermal Analysis Of Engine Cylinder Fins By Varying Geometry.
- Mahesh Kumar, 2023 Study Of The Mechanical Properties Of The Fly Ash Composites Bricks
- Fazal Abbas, 2023 Design And Analysis Of Artificial Limb Using Fiber Reinforced Polymeric Composites.
- Anjali Maurya, 2021 Study Of Mechanical Properties Of Coconut Coir Fibre Reinforced Epoxy Biocomposites.
- Mohd. Saif, 2021 “A Hybrids Methodology For Optimizing MIG Welding Process Parameters In Joining Dissimilar Metals
- Ashab Jamal, 2020 Study Of Mechanical Properties Of Natural Fiber Hybrid Polymer Composites.
- Gulshan Kumar, 2020 Investigation Of MRR, TWR And Radial Overcut At Varying Depth Of Machining During Die Sinking EDM

PUBLISHED/GRANT PATENTS

German Utility Patent (Granted):

- Patent Number: 202023104309

Title of invention: IoT Based Automatic Biological Vermi Compost Maker

UK Utility Patent (Granted):

- Patent Number: 6304591
Title of invention: Quad laser Optics Metal Additive Manufacturing Machine
- Patent Number: 6291241
Title of invention: Novel Iot Based Computerised Numerical Control Fiber Laser Composite Material Cutting Machine
- Patent Number: 6286024
Title of invention: ML Based Robot For Determining Crop Yield

PUBLISHED/ACCEPTED SCI/SCOPUS RESEARCH PAPERS

- Chaturvedi S., Saurabh K Yadav, Chandra B Khatri, Abhishek Kumar. Optimization of twin grooved two-lobe textured hydrodynamic journal bearing design by using genetic algorithm. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, DOI: 10.1177/09544062241256504, 2024
- Chaturvedi S., Saurabh K Yadav, Chandra B Khatri, Influence of Texture Surface and Micropolar Lubricant on the Performance of Three-Lobe Slot-Entry Hybrid Journal Bearing, Springer Nature, 2024
- Chaturvedi S., Saurabh K Yadav, Chandra B Khatri Influence of Misalignment on the Performance of a Two-Lobe Aerostatic Journal Bearing, Springer Nature, 2024.
- Chaturvedi, S., Bharti, P.K. and Akhtar S.N. Metal-on-Metal hip prostheses lubrication analysis for Newtonian elastohydrodynamic fluid. Materials Today Proceedings. MCN No: IU/R&D/2020-MCN0001018, 2021.
- Chaturvedi, S. Bharti, P.K., Yadav, S.K., Singh, S. A Finite Element Simulation on MOM (Metal-on-Metal) Hip Implant. Lubrication Science, 31(5): 210–217, 2019.

PAPER PUBLISHED IN INTERNATIONAL CONFERENCES

- Prioritizing Women's Health: The Imperative for Working Women. International Seminar Lifestyle Diseases Working Women Health Priorities & Interventions on 23 rd September 2023
- Prosthetic Hand Development through Additive Manufacturing: Advancements, Challenges, and Future Directions, STAR2023 International conference, 2023
- Khursheed, S., Chaturvedi, S., Moeed, K. Comparative Study of the use of IPMC as an artificial muscle in Robots replacing the motors: A Review. Proceeding of International Conference on Tribology. 2018
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PUBLISHED NON-SCI-SCOPUS BUT PEER REVIEWED RESEARCH PAPERS

- Saif, M. and Chaturvedi, S. A hybrid methodology for optimizing MIG welding process parameters in joining of dissimilar metals. Compliance Engineering Journal 12(8): 132-145, 2021.
- Kumar, G. and Chaturvedi, S. Syed Asghar Husain Rizvi, Investigation of MRR, TWR and radial overcut at varying depth of machining during die Sinking EDM, International Journal of Research in Applied Science, 8(9). 137-142, 2020.
- Chaturvedi, S. Jamal, A., and Bano A. Study of mechanical properties of natural fiber hybrid polymer composites. International Research Journal of Engineering and Technology. 7(9).403-406, 2020.

- Khursheed, S., Chaturvedi, S., Moeed, K. Role of VO2 MAX in determining the rest periods for moderate work. International Journal for Scientific Research & Department (IJSRD). 3 (6), 2015.
- Chaturvedi, S., Bharti, P.K. Study and Evaluation of JUST-IN-TIME in automobile manufacturing company. International Journal of Res and Application (IJTRA). 3(4), 2015.
- Chaturvedi, S., Bharti, P.K. Study Performance of Metal-on-Metal Hip implants: A Review. International Journal of Technical Research and Applications. 3(5), 284-287,2015.
- Khursheed, S., Chaturvedi, S., Moeed, K. Comparison of Mechanical Properties and Weld Joint Strength of High Strength Low Alloy Steels with Low Carbon Steel. International Journal of Engineering Research & Technology (IJERT). 4(01), 325-328,2015.

BOOK EDITED/ AUTHORED

- Book - Chaturvedi, S. (Editor)
Welding Technology by AARGON PRESS, INDIA. (ISBN 9789394070165)

BOOK CHAPTERS

- Charan Piyush, Chaturvedi S. The Role Of Technology In Women Entrepreneurship: Legal Issues And Challenges For Gen-Z. (ISBN 978-81-19281-541), Entrepreneurship in The Modern World.
 - Sharma, S.D., Moeed,K.M., Chaturvedi, S. Optimization of Weld Bead Geometry in Submerged Arc Welding by Taguchi Method. (ISBN 9789394070165)
 - Sharma, S.D., Saif, M., Chaturvedi, S. A Hybrid Methodology for Optimization Mig Welding Process Parameters in Joining of Dissimilar Metals.(ISBN 9789394070165)
 - Ansari, A.J., Hasan, F., Chaturvedi, S. Parametric Optimization of MIG Welding Parameters of En-31 Using Taguchi Method. (ISBN 9789394070165)
 - Wasiq, Alam, S., Chaturvedi, S. Investigation of Effect of Welding Parameters on Weld Bead Shape Profile of Underwater Welds (ISBN 9789394070165)
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