Dr. Gautam Kumar

Assistant Professor (Tenure)

Department of Production Engineering

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Research Interests

Formability analysis in sheet metal forming, Simulation in Incremental Sheet Metal Forming, Friction Stir Welding

Professional Employment

Veermata Jijabai Technological Institute (VJTI) Mumbai
Assistant Professor, Dept. of Production Engineering — 08/2024 – Present

National Institute of Technology, Calicut, Kerala — 01/2023 to 05/2024

Assistant Professor (Adhoc), Dept. of Mechanical Engineering

Government Engineering College, Samastipur — 05/2021 to 06/2022

Assistant Professor (Guest), Dept. of Mechanical Engineering

Education

Qualification	Year of Passing	Institute	Aggregate	Class/Division
Ph. D. (Mechanical)	2021	NIT Patna	9.00 (CGPA)	First
M. Tech. (ME)	2015	IIT (ISM) Dhanbad	8.33 (CGPA)	First
B. Tech. (Mechanical)	2012	MIT Muzaffarpur	74.67 %	First (Distinction)

Thesis

Ph. D: Formability analysis of tailored blanks in single point incremental forming

M. Tech: Electroless Ni-P coating on mild steel substrate

Subjects of Interest for Teaching: Manufacturing Science, Workshop Technology, Engineering Graphics and CAD/CAM Lab, Basic Thermodynamics

Experimental Skills: Formability tests for sheet metal forming, Tensile testing, Scanning Electron Microscopy, Microhardness testing, Energy Dispersive X-Ray Spectroscopy (EDS), Wire EDM etc.

Software Skills: MATLAB, Minitab 17, ABAQUS, Solidworks, Mastercam, ImageJ, MS office etc.

Publications

International Journal Papers

1. G. Kumar, and K. Maji, Investigations on improved formability of AA5083 sheet in single point incremental forming. *Journal of Materials Engineering and Performance*, 2021; 30:1289–1305. ***(SCI Indexed)***
2. K. Maji, and G. Kumar, Inverse analysis and multi-objective optimization of single-point incremental forming of AA5083 aluminum alloy sheet. *Soft Computing*, 2020; 24:4505–4521. ***(SCI Indexed)***
3. G. Kumar, and K. Maji, Investigations on formability of tailor laminated sheets in single point incremental forming, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture,* 2022, 236(10), 1393-1405. https://doi.org/10.1177/09544054221076244. ***(SCI Indexed)***
4. G. Kumar, and K. Maji, Forming limit analysis of friction stir tailor welded AA5083 and AA7075 sheets in single point incremental forming, *International Journal of Material Forming,* 2022, 15 (20). https://doi.org/10.1007/s12289-022-01675-7. ***(SCI Indexed)***
5. G. Kumar, and K. Maji, Formability of AA7075 sheet in single point incremental forming, *International Journal of Manufacturing, Materials, and Mechanical Engineering*, 2021; 11 (2):40-54. ***(Scopus Indexed)***
6. K. Maji, S. Kumar, and G. Kumar Experimental study on the effects of incremental forming and friction stir welding on formability of AA5083 sheet, *Journal of Physics: Conf. Series, 2019;* 1240, 012090. ***(Scopus indexed)***

International Conferences Proceedings

1. G. Kumar, and K. Maji (2018) Strain- and Stress-based forming limit curves for DP 590 steel sheet using Marciniak-Kuczynski method, Advances in Mechanical Design, Materials and

Manufacture. AIP conf. Proc. 1943, 020008-1-020008-9. *NIT Surathkal, 29-31 Jan. 2018.* ***(Scopus indexed)***

2. G. Kumar, Saurabh, M. Roshan, K. Nandan, and K. Maji (2019) An Experimental Study on Single-Point Incremental Forming of AA5083 Sheet Using Response Surface Methodology. In: Shunmugam M., Kanthababu M. (eds) Advances in Forming, Machining and Automation. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore., *AIMTDR, Anna University, Chennai 2018.* ***(Scopus indexed)***
3. G. Kumar, D. Kumar and K. Maji (2018) Theoretical and experimental prediction of forming limit curve for aluminium alloy AA5083 sheet, International Conference on Advances and Soft Computing Applications in Design and Manufacturing (ASCADM-2018), *NIT Patna, 2018.*
4. G. Kumar, and K. Maji, (2019) Formability of polymeric sheet in single point incremental forming, International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-11), *IIT Indore*, 12-14 Dec. 2019.
5. K. Maji, and G. Kumar (2022) A Review on Formability of Tailored Sheets in Incremental Forming, In: Agrawal, A., Kakandikar, G., and Kumar, D. R. (eds) Metal Forming Processes: Developments in Experimental and Numerical Approaches. CRC Press, p 225-232. DOI: 10.1201/9781003226703-14.
6. Kuntal Maji, Tushar Banerjee, Gunda Yoganjaneyulu and Gautam Kumar (2024), Formability and surface integrity in incremental sheet metal forming, *Analysis and Optimization of Sheet Metal Forming Processes.* https://doi.org/10.1201/9781003441755-10 .

Short Term Courses Attended

- Recent Trends in Friction stir Processing Technique (RTFSP 2019), 18-20 December 2019, IIT Patna.

Industrial/ Vocational Training

- Four weeks Training at **Bharat Wagon & Engineering Company Limited**, Muzaffarpur during November 2010.
- Two weeks Training at **Patratu Thermal Power Station**, Patratu, Ranchi during July 2010.
- Four weeks VT on CATIA V5R-18 at **Indo Danish Tool Room,** Jamshedpur during September 2009.
- A webinar on "Formability in Single Point Incremental Forming" was presented at Government Polytechnic Siwan on 4 July 2021.

Personal Information

Born February 16, 1990 (Unmarried) in Hilsa, Nalanda, Bihar

India Languages known: Hindi (mother tongue), English.

References

Available upon request.

Updated on October 01, 2024.