

Faculty Profile-MUKESH CHANDRA

Name: MUKESH CHANDRA

Department: Production and Industrial Engineering

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Office Address: M-84, Department of Production and Industrial Engineering,
BIT Sindri, Dhanbad



Qualification:

S. No	Degree	Specialization	Institute
1.	PhD (Pursuing)	Mechanical Engineering	National Institute of Technology Patna, Bihar
2.	M.Tech (2017)	Manufacturing Technology	National Institute of Technology, Tiruchirappalli, TN
3.	B. Tech (2014)	Production Engineering	Haldia Institute of Technology, West Bengal

Technical skills:

- Design and simulation: Solidworks, NX design, Ansys, Comsol, MSC Nastran
- Data engineering and MLOps : Python, and its library
- Multiple-criteria decision analysis tools

Research interest:

- Artificial intelligence & Machine learning (AI&ML): Implementation of manufacturing applications, in-situ monitoring
- Advanced welding process: A-TIG, Hot-wire TIG, and robotic MIG welding, friction welding
- Metal Additive manufacturing: WAAM
- Sustainable Manufacturing
- Inflatable structure for space antennas

Subjects Taught:

- Undergraduate students: Manufacturing Processes -II, Manufacturing Processes-III, Advance casting & welding, Production tooling and Design, Design of Machine element, Theory of Machine, Material Deformation process
- Postgraduate students: Advance Manufacturing Technology-I, Supply Chain Management

Award/Recognition:

- Letter of Appreciation by Director for contribution to NBA accreditation as a core member in department and Institute level
- Recognized as a reviewer in reputed journals like Acta Astronautica (Elsevier), Additive Manufacturing (Elsevier), IIJDEM (Springer), and Rapid Prototyping Journal.
- Letter of appreciation for contribution as a Technical Programme Committee Member during the

International Conference on Advancements in Interdisciplinary Research (AIR-2022) held on 6th- 7th May 2022 at MNNIT Allahabad, Prayagraj, India.

- Selected as an Evaluator for the Toyathon-2021 by MoE Innovation cell

Professional Experience:

I) Teaching Experience:

Sl. No.	Position held	Name of Organization	From	To
1.	Assistant Professor	BIT Sindri, Dhanbad	3 rd Sep. 2018	Till date
2.	Assistant Professor (Under World bank Project of TEQIP-III)	IGIT, Sarang	3 rd Jan. 2018	31 st Aug. 2018
3.	Associate faculty of Manufacturing Science	GATE FORUM	1 st March 2016	28 th Feb. 2017

II) Industrial Experience:

Sl. No.	Position held	Name of Organization	From	To
1.	Associate software engineer	DEP Pvt. India Ltd.	3 rd July 2017	29 th Dec. 2017

Sponsored Project /Research Experience

SN	Role	Project Title	Funding Agency	Amount (Lacs)	Date of Award	Status
1.	Principal Investigator	"Design & Development of a Proof-of-Concept Model of a Doubly Curved Membrane based Space Structure"	NPIU under TEQIP-III	9.75	18 th , June 2019	Completed
2.	Co-Principal Investigator	"Investigation to fatigue and vibration characteristics of Rolling Element Bearing"	NPIU under TEQIP-III	8.30	18 th , June 2019	Completed

Publications (SCI/SCIE/ESCI/Scopus):

Google Scholar - <https://scholar.google.com/citations?hl=en&authuser=1&user=bGD49vsAAAAJ>

International/National journal publication

- Mukesh Chandra**, Shatrudhan Kumar, Kumar Ankit, Sonu Kumar Rajak, and Sonu Rajak. "A Machine Learning Approach for Prediction of Surface Temperature of the Weld Region in A-TIG Welding." Transactions of the Indian Institute of Metals (2023): 1-11. **IF: 1.6**
- Mukesh Chandra**, Sonu Rajak, K. E. K. Vimal, Tanmay, Vijay Kumar Yadav, and Rakesh. "Mechanical Properties of Wire Arc Additive Manufactured 5356 Aluminum Alloy Wall Using Robotic-Controlled GMAW." Metallography, Microstructure, and Analysis 12, no. 6 (2023): 999-1008. **IF: 1.6**
- Mukesh Chandra**, Sonu Rajak, and Vimal KEK. "Deep learning-based framework for the observation of real-time melt pool and detection of anomaly in wire-arc additive manufacturing." *Materials and Manufacturing Processes* (2023): 1-17. **IF: 4.8**

- **Mukesh Chandra**, Abhinav Kumar, Sumit Kumar Sharma, Kashif Hasan Kazmi, and Sonu Rajak. "Deep learning for anomaly detection in wire-arc additive manufacturing." *Welding International* 37, no. 8 (2023): 457-467.
- **Mukesh Chandra**, Vimal K. E. K., and Sonu Rajak. "A comparative study of machine learning algorithms in the prediction of bead geometry in wire-arc additive manufacturing." *International Journal on Interactive Design and Manufacturing (IJIDeM)* (2023): 1-14. **IF: 2.1**
- **Mukesh Chandra**, Faisal Shahab, Vimal KEK, and Sonu Rajak. "Selection for additive manufacturing using hybrid MCDM technique considering sustainable concepts." *Rapid Prototyping Journal* 28, no. 7 (2022): 1297-1311. **IF: 3.8**
- **Mukesh Chandra**, Kunal Kumar, Prabhat Thakur, Somnath Chattopadhyaya, Firoz Alam, and Satish Kumar. "Digital technologies, healthcare and COVID-19: Insights from developing and emerging nations." *Health and Technology* 12, no. 2 (2022): 547-568. **IF: 2.5**
- Warsi, Reyazul, Kashif Hasan Kazmi, and **Mukesh Chandra**. "Mechanical properties of wire and arc additive manufactured component deposited by a CNC controlled GMAW." *Materials Today: Proceedings* (2021), **IF: 1.24**, <https://doi.org/10.1016/j.matpr.2021.10.114>
- **Mukesh Chandra**, Satish Kumar, Somnath Chattopadhyaya, Sayan Chatterjee, and Prakash Kumar. "A review on developments of deployable membrane-based reflector antennas." *Advances in Space Research* 68, no. 9 (2021): 3749-3764, <https://doi.org/10.1016/j.asr.2021.06.051>, **IF:2.15**
- Tanmay, **Mukesh Chandra**, M., Sharma, S. et al. Study of Mechanical and Metallurgical Properties of Cold and Hot Reciprocating Wire TIG Welding on AISI 1035 Carbon Steel. *J. Inst. Eng. India Ser. D* 102, 159–166 (2021) **IF: 1.4**. <https://doi.org/10.1007/s40033-021-00249-2>
- Mustafa, U., **Mukesh Chandra** & Paulraj, S. Influence of Filler Wire Diameter on Mechanical and Corrosion Properties of AA5083-H111 Al–Mg Alloy Sheets Welded Using an AC Square Wave GTAW Process. *Trans Indian Inst Met* 71, 1975–1983 (2018), <https://doi.org/10.1007/s12666-018-1331-y>, **IF:1.6**

International/National Conferences/Book Chapter Proceedings

1. Dharmendar Kumar, **Mukesh Chandra**, and Sonu Rajak. "Layer-by-layer thermal modelling for wire-arc additive manufacturing of Aluminum alloy wall." *Materials Today: Proceedings* (2023), Presented at CPIE-2023, NIT Jalandhar
2. Mukesh Chandra, Vimal K. E. K., and Sonu Rajak. "In situ process monitoring and control in metal additive manufacturing." *Additive Manufacturing: Advanced Materials and Design Techniques* (2023): 57. (Taylor & Francis Publisher)-(Link)
3. Chandra Prakash Pandit, Mukesh Chandra, Aashutosh Choubey, Sonu Rajak. "Selection of Suitable Material for the Solar Panel Using SWARA and COPRAS Method" *Recent Trends in Mechanical Engineering: Select Proceedings of PRIME 2021* 153-162 Publisher Springer Nature Singapore, Presented at International Conference on Progressive Research in Industrial & Mechanical Engineering from August 5 to 7 August 2021 at NIT Patna paper.
4. Babalola S.A., Kumar N., Dutta S., Murmu N.C., Chandra M. (2021) **A Critical Review on the Trends Toward Effective Online Monitoring of Defects in Friction Stir Welding of Aluminum Alloys**. In: Osman Zahid M.N., Abdul Sani A.S., Mohamad Yasin M.R., Ismail Z., Che Lah N.A., Mohd Turan F. (eds) *Recent Trends in Manufacturing and Materials Towards Industry 4.0. Lecture Notes in Mechanical Engineering*. Springer, Singapore, Presented at IM3F 2020, Malaysia, https://doi.org/10.1007/978-981-15-9505-9_75

Conference/ Workshop/Seminar/ Organized

Sl. No.	Title	Position held	Sponsoring Agency	Date	No. of Participants
1.	One-week workshop on MARFF-2018	Organizing committee member	TEQIP-III	3 Oct. to 7 Oct. 2018	60
2.	2 nd Entrepreneurial Conclave- one day seminar by Start-up Cell, BIT Sindri	Organizing committee member	TEQIP-III	18th sept. 2018	120
3.	An expert talk on Artificial Intelligence By Start-up Cell, BIT Sindri	Organizing committee member	TEQIP-III	23rd March 2018	150
4.	Entrepreneurship Summit- 2019	Joint Organizing Secretary	TEQIP & BITTSA	15 th to 17 th Nov. 2019	200
5.	International Conference on “Advancements in Interdisciplinary Research Towards Smart and Sustainable Society”	Technical Programme committee member	MNNIT Allahabad- Prayagraj	6-7 th May, 2022	100
6.	Intellectual Property Awareness program, under NIPAM	Co-ordinator	IP Office and MIC, India	9 th June, 2022	90
7.	International Symposium on Entrepreneurship in the Digital Era-2022 (ISEDE-2022)	Co-ordinator	BIT Sindri in association with BITSAA	18th -22nd NOV. 2022	200

Symposium/ Workshop/Seminar/ Attended

Sl. No.	Title	Date	Organizing Institute
1.	One-week workshop on Faculty Development Programme	20 th to 24 th Jan. 2018	IIT Hyderabad
2.	Two-day workshop on Outcome-based accreditation for UG/PG	6 th to 7 th Feb. 2018	IGIT Sarang
3.	Workshop on Awareness Generation on intellectual property rights	21 st March 2018	IGIT Sarang
4.	Two-day workshop on under Start-up India Programme	29 th to 30 th Sep. 2018	IIT(ISM), Dhanbad
5.	One-week workshop on Manufacturing Automation Robotics and factory of future	3 rd to 7 th Oct. 2018	BIT Sindri
6.	Two-day workshop on Understanding Metallurgy of steel for its Effective Utilization (UMSU-2018)	27 th to 28 th Oct. 2018	BIT Sindri
7.	One-day FDP on Hydraulics- Pneumatics, PLC & Mechatronics	22 nd Nov. 2018	IDTR Patna
8.	One-day Entrepreneurial Conclave	11 th Dec. 2018	BIT Sindri

9.	One-week Workshop on SELF by Art of Living	15 th April to 20 th April	Art of Living at BIT Sindri
10	One -week FDP on “Emerging Trends in Mechanical Engineering”	May 2019	BIT Sindri
10.	One-week FDP on “Advance Pedagogy”	10 th to 14 th June 2019	IIT Kharagpur
11	4 Days Training on Milling NC Programming	18 th -21 st June 2019	Siemens Centre of Excellence, BIT Sindri
12	4 Days Training on Turning NC Programming	24 th -27 st June 2019	Siemens Centre of Excellence, BIT Sindri
13	One-day workshop on “Water scenario of Dhanbad District: Emerging Challenges”	22 nd July 2019	BIT Sindri
14	One-day Orientation session on IIC 2.0 and ARIIA 2020	13 th Aug. 2019	MHRD’s Innovation Cell at GNIT, Kolkata
15.	Two day workshop on Inflatable Structure and Material for Space application (ISMA 2019)	7 th to 8 th Nov. 2019	IIT Roorkee
16.	3 Days Entrepreneurship Summit 2019 at BIT Sindri	Nov 2019	BIT Sindri
17.	One-day workshop on Multi-Physics Simulation for teaching and Research	22 nd Nov. 2019	BIT Sindri
18.	International workshop on Waterjet Process and related 4.0 Application	7 th to 8 th Dec. 2019	IIT(ISM), Dhanbad
19.	IIC Online Sessions on Innovation, IPR, Entrepreneurship, and Start-ups among HEIs	28 th April to 22 nd May 2020	MHRD's Innovation Cell, New Delhi
20.	National Webinar on Virtual Lab	16 th April 2020	IET & SPIU, UP
21.	Qualitative Research - Approaches and Methods	31 th May 2002	IDMBA, Hyderabad
22.	Faculty development programmed for Engineering college on Virtual Lab	29 th June 200	NIT Surathkal & BIT Sindri
23.	One Day Faculty Development Programme on Free Open Source Tools for Education and Research	07 July 2020	FOSSEE, IIT Bombay
24.	Engineering and Advanced Materials for Sustainable Development	14th July 2020	REC, REWA
25	Three Days National webinar/video workshop on "TRANSFORMING PEDAGOGY IN INDIA",	1 Aug. to 3 Aug 2020	NIT, Jamshedpur
26	Future skill technologies in 3D Printing & Design	19th June to 26th June 2021	IIT Hyderabad & NPIU
27	ATAL Academy Online FDP: Photography	12th Oct. to 16th Oct 2020	NIT Arunachal Pradesh AICTE-ATAL online FDP
28	ATAL Academy Online FDP: 3D Printing & Design	14th Dec. 202- to 18th Dec. 2020	NIT Jalandhar AICTE-ATAL online FDP
29	Emerging Manufacturing Technologies and Strategies	5th July 2021 to 9th July 2021	BIT Sindri
30	Industrial Safety & Maintenance (ISM-2021)	04th to 06th October, 2021.	BIT Sindri
31.	Two-day workshop on Additive Manufacturing	21 st to 22 nd Oct. 2021	Chennai Institute of Technology, TN
32.	ATAL Academy Online FDP:3D printing and design of metals and polymers	6 th to 10 th Dec. 2021	IIT Indore AICTE-ATAL online FDP
33.	ATAL Academy Online FDP: Metal Additive Manufacturing	13th to 17th December 2021	NIT Nagpur AICTE-ATAL online FDP

34.	Industry 4.0 Technologies: Application in Manufacturing Supply Chain	02 May–13 May, 2022	Organized by Electronics & ICT Academy, NIT Patna
35	Ambassador Training Program “Advanced Level” 15 sessions	2021-22	Ministry of Education's Innovation Cell, and AICTE

Credit/ Non-credit course completed

Sl. No.	Title	Date	Organizing Institute	Couse details
1.	Introduction to Basic Vibrations	Completed on 21 th June 2020	College of Engineering, KAIST, Korea on Coursera	Non-credit, 5-week on course & Grad:86.25%
2.	Digital Transformation in Teaching Learning Process	16 th to 30 th March 2020	IIT Bombay	Non-credit, 2-week on NPTEL platform

Academic/ Position Held:

S. No.	Position Held	From (month/year)
1.	Professor In-Charge Welding Lab	Sep. 2018-till Date
2.	Professor In-Charge Computer Application Lab	Sep. 2018-till Date
3.	Member of Startup Cell, BIT Sindri, Dhanbad	Sep. 2018-till date
4.	Convener of Institute innovation cell (IIC) at BIT Sindri	Aug. 2019- Dec.2024
5.	Executive member of IP cell, BIT Sindri	Aug. 2019- till date
6.	Departmental NAAC Co-coordinator	2021-till date

ACADEMIC ACHIEVEMENTS & CO-CURRICULAR ACTIVITIES

- Qualified GATE exam in 2014,2015, 2016 & 2017 with good Marks and score.
- Qualified Certified Solid works associate (CSWA) in Mechanical design conducted by Dassault Systemes.
- Awarded 1st prize in Photography in PGion-A Cultural Fest for Post Graduates in NITT.
- Bagged one Gold and Bronze medal in sports fête of NIT Trichy in Swimming.

EXTRA CURRICULAR ACTIVITIES

- Jury Member in various segments of Tech fest under SANDHAAN'19 organized by Model Club of BIT Sindri.
- Judge of a National Level Science fair held at Saraswati Vidya Mandir, Gridhi, and Jharkhand.
- Organized a District level Photo Exhibition in Munger District, Bihar.
- Organized “Chhoti Si Khusiya” : A campaign of Social activity during Diwali in Munger District, Bihar.
- Organized “Ek Kapra”: A old clothes donation camp in in Munger District, Bihar.
- Placement committee member of training and placement cell at NIT Tiruchirappalli
- Member of Incredible NITT-The Nature Club of NIT, Tiruchirappalli
- Worked as coordinator in PRAYUKTI- The Annual Techno-Management Extravaganza of HIT Haldia
- Worked as a Volunteer in RIVIERA-The Annual Cultural Fest of HIT Haldia
- Participated in Blood Donation camp held in HIT Haldia
- Participated in INSTRU -The Annual Techno-Management Fest at IEST, Sibpur, Kolkata
- Hobbies: Photography & editing, Travelling, Blogging, Social Activity and Swimming.

PERSONAL DETAILS:

Father's Name : Ram Chandra Mandal
Mother's Name : Renu Devi
Date of birth : 8th Feb 1992
Gender : Male
Category : OBC
Category for Jharkhand state : NA
Permanent State : Bihar
Nationality : India
Languages Known : Hindi & English
Permanent Address : House no:01, S/o Ram Chandra Mandal, Chhoti Mohuli,
Basudeopur, Munger, Bihar, 811202
Present address : M-84, Department of Production Engineering, BIT Sindri, Dhanbad,
Jharkhand 828123

Declaration:

I hereby declare that the above furnished particulars are true and the best of my knowledge and belief



Signature

Name: MUKESH CHANDRA

Date: 5/1/2024

Place: Dhanbad