Dr. Jagadish

Assistant Professor in SQC & OR Unit

Indian Statistical Institute, RVCE Post, 8th Mile, Mysore Road, Bangalore-560059

Mobile: 08811940517 email: jagadish@isibang.ac.in / jagadishbaridabad.s@gmail.com

Research Interests: Production & Industrial Engineering; Process Modeling & Optimization of Manufacturing Systems; Optimization Techniques (Evolutionary/Soft Computing Techniques, MCDM Methods); Statistical Modeling & Analysis (Design of Experiments; Taguchi Method; RSM etc.); Six Sigma; Supply Chain Management; Total Quality Management; Time Series Analysis; Green Manufacturing; Machining; 3D Printing; CAD/CAM; Green Composites; Surface Texturing.

Educational Qualification:

- Ph.D. in Engineering from NIT Silchar
- M.Tech in Product Design & Development from NIT Warangal
- B.E. in Mechanical Engineering from VTU Belgaum.
- Diploma in Mechanical Engineering from DTE Bangalore.

Professional Experience:

- Assistant Professor, Indian Statistical Institute Bangalore Centre, India from March 2023 to till date.
- Assistant Professor, NIT Raipur, Chhattisgarh, India from Aug 2018 to March 2023.
- Assistant Professor, NIT Silchar, Assam, India from June 2013 to Aug 2018.
- Design Engineer at InfoTech Enterprises Limited, Hyderabad, A.P from July 2011 to May 2013.
- Design Engineer Trainee at Central Tool Room Ludhiana, Punjab from July 2008 to July 2009.

Research Guidance:

- **UG Projects:** 10 (Awarded)
- **PG. Scholars Guided:** 15 (Awarded); 01 (Ongoing)
- PhD Scholars Guided: 01 (Awarded), 04 (Ongoing) as Co-supervisor
 - 1. Dr. Jagannath Reddy (18-3-02-109)- Modeling, Experimental Study & Optimization of Solar Air Collector Systems using Soft Computing and MCDM Methods. [Awarded on 25-10-2022]
 - 2. Mr. Binoy Kumar Baroi (17-3-02-116)- Machining and Statistical Optimization of PMEDM process. [Submitted on 26-July -2023]
 - 3. Mr. Dheeraj Lal Soni (1931009)-Nature Inspired Texture Pattered Cutting Tool and Optimization Techniques including Statistical Analysis. [Ongoing]

- 4. Mr. Satish Kumar Adapa (1930013)-Development of Green Composite Filament and Optimization Techniques including Statistical Analysis. [Ongoing]
- 5. Mr. Sagar Yanda (2031008)- Statistical Modeling & Optimization of Manufacturing Systems [Ongoing]

Research Project/ Consultancy Work, Lab Developed and Other Activities:

Externally Funded Projects/ Consultancy Works: 08(Completed)

Project Title	Funding Agency	Amount
Design, Fabrication and Analysis of Fire Frightening	RPC Cell, NITS	Rs. 1,00,000/-
Robot		
Design, Fabrication and Analysis of A TV car with	RPC Cell, NITS	Rs. 80,000/-
duel Transmission		
Technology development & investigation of eco-	CRDT, UBA-IITD	Rs. 1,00,000/-
friendly bricks /particle boards from waste natural		
resources for low-cost housing structures for Tendua		
village of Chhattisgarh Region		
Skill development campaign for low-cost bamboo-	CRDT, UBA-IITD	Rs. 50,000/-
based skewer sticks making technique in Bendri		
village of Chhattisgarh		
Development and Characterization of Machining	SGP-NITR	Rs. 5,00,000/-
Properties of Green Composites from Selected Indian		
(Chhattisgarh Region) Cultivars using Green		
Manufacturing Process		
Problem Solving using Design of Experiments	Walvoil Fluid Power Pvt	Rs.70,000/-
	Ltd. India	
Six Sigma Green Belt Certification Program	BEML Ltd, India	Rs.2,00,000/-
Statistical Process Control Training	Kirloskar Toyota Textile	Rs.80,000/-
	Machinery Pvt Ltd.,	
	India	

Funded Projects (Granted):

Project Title	Funding Agency	Amount
Hybrid Decision Support System based Modeling and	SGP-ISI K	Rs. 4,89,000/-
Optimization of Green Manufacturing Systems for		
Product Quality Improvement: A Case Study		
Approach.		

Enabling tribal people's of Chhattisgarh towards	ICSSR-MoE, GoI	Rs. 5,00,000/-
sustainable livelihood improvement through building		
of sustainable hybrid bricks (SHB) for low-cost		
housing structure.		
Tribal Education Culture and Identity: A Study	ICSSR-MoE, GoI	Rs. 5,00,000/-
(Chhattisgarh) (with special reference to the		
Lapachadi Bega tribe)		

- **Research Lab Developed:** Material Processing & Advance Manufacturing (MP&AM) Lab
- **↓ Guest Editor:** "Materials Today: Proceedings of MaterialTECH-2022 Conference and "AIP: Proceedings of AMEIIM-2022 Conference

Publications Details:

Paper published in International Journals:

- 1. S. K. Adapa & Jagadish (2023) Design and fabrication of internal mixer and filament extruder for extraction of hybrid filament composite for FDM applications. International Journal on Interactive Design and Manufacturing (IJIDeM) https://doi.org/10.1007/s12008-023-01521-3 [ESCI-IF-2.1]
- 2. J.Reddy, **Jagadish**, B.Das & S. Debnath (2023) Experimental investigation and optimization of sand-coated solar air collector parameters by fuzzy-MCDM integrated decision approach. Journal of Thermal Analysis and Calorimetry,1-15, https://doi.org/10.1007/s10973-023-12114-3 [**SCI-IF:4.755**]
- 3. B. K. Baroi, **Jagadish**, P.K Patowri (2023) Effect of boric acid in Powder Mixed EDM of Ti-6Al-4V ELI. Materials and Manufacturing Processes, 1-20, DOI:10.1080/10426914.2023.2195907 [SCI-IF:5.07]
- 4. S.K.Adapa & **Jagadish** (2023) Prospects of Natural Fiber Reinforced Polymer Composites for Additive Manufacturing Applications: A Review. The Journal of The Minerals, Metals & Materials Society (JOM) https://doi.org/10.1007/s11837-022-05670-w [**SCI-IF:2.597**]
- 5. S.K.Adapa & **Jagadish** (2022) An Exhaustive Review on Intelligent Computer-Aided Process Planning (CAPP) in context with Various Optimization Techniques. International Journal of Materials and Product Technology, DOI: 10.1504/IJMPT.2023.10051076 [SCIE-IF:0.741]
- S. Raju, S.K.Adapa, Jagadish, C.J. Rao, & S.Yanda (2022) Evaluation of Thermo-Mechanical Behavior of Hemp Fiber Polymer Composites. Composites: Mechanics, Computations, Applications, An International Journal,13(3),113-132. DOI: 10.1615/CompMechComputApplIntJ.2022043103 1 [ESCI-IF-0.67]
- 7. S. Raju, **Jagadish**, C.J.Rao, S.K.Aadapa and S.Yanda (2022) Predication of Temperature Distribution and Strain during FSW of Dissimilar Aluminum Alloys Using Deform 3D. Materials Today: Proceedings, 59(3),1760-1767.https://doi.org/10.1016/j.matpr.2022.02.278 [**Scopus**]

- 8. B.K.Baroi, **Jagadish** and P.K Patowri (2022), Parametric study of electric discharge machining of titanium grade-2 alloy in distilled water, Materials Today: Proceedings, 59(3), 1584-1590, https://doi.org/10.1016/j.matpr.2022.02.275 [**Scopus**]
- 9. B.K. Baroi, **Jagadish**, P.K. Patowari (2022) A review on sustainability, health, and safety issues of electrical discharge machining. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 44:59, https://doi.org/10.1007/s40430-021-03351-4. [**SCIE-IF-2.361**]
- 10. Jagadish, Manjunath P.G.C, Tatjana V. S, Jabir M, Zhang L (2022) Abrasive Water Jet Machining for a High-Quality Green Composite: The Soft Computing Strategy for Modeling and Optimization. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 44, 83 https://doi.org/10.1007/s40430-022-03378-1 [SCIE-IF-2.361]
- 11. J.Reddy, **Jagadish**, S.Negi, B.Das (2021) Energy and exergy analysis of a trapezoidal absorber plate-based solar air collector. Energy Science & Engineering, 10(4), 1067-1082 https://doi.org/10.1002/ese3.1091 [SCIE-IF-4.170]
- 12. D.L.Soni, and **Jagadish** (2021) Nature-Inspired Texture Pattern for Cutting Tool Tribological Surface Modification: A State of Art. Materials Today Proceedings, 60(3),1353-1357, https://doi.org/10.1016/j.matpr.2021.10.180 [**Scopus**]
- 13. Manjunath P.G.C., S. Kumar, **Jagadish**, Y.P. Danil, G. Khaled (2021) Experimental Analysis and Optimization of EDM Parameters on HcHcr Steel in Context with Different Electrodes and Dielectric Fluids Using Hybrid Taguchi-Based PCA-Utility and CRITIC-Utility Approaches. Metals,11(3),419; https://doi.org/10.3390/met11030419 [**SCIE-IF-2.695**]
- 14. J.Reddy, S.Roy, B. Das, **Jagadish**, (2021) Performance evaluation of sand coated absorber based solar air collector. Journal of Building Engineering 44, 102973; https://doi.org/10.1016/j.jobe.2021.102973 [SCIE-IF-7.14]
- 15. J Reddy, B.Das, **Jagadish**, S.Negi (2021) Energy, exergy, and environmental (3E) analyses of reverse and cross-corrugated trapezoidal solar air collectors: An experimental study. Journal of Building Engineering 41, 102434, https://doi.org/10.1016/j.jobe.2021.102434 [**SCIE-IF-7.14**]
- 16. Manjunath P.G.C., and **Jagadish** (2021) Experimental modeling and optimization of surface quality and thrust forces in drilling of high strength Al 7075 alloy: CRITIC and Meta-heuristic Algorithms. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 43, 244, https://doi.org/10.1007/s40430-021-02928-3 [SCIE-IF-2.361]
- 17. Tatjana V. Sibalija, S. Kumar, Manjunath P.G.C, **Jagadish** (2021) A soft computing-based study on WEDM optimization in processing Inconel 625. Neural Computing & Application, 33, 11985–12006 https://doi.org/10.1007/s00521-021-05844-8 [SCIE-IF:5.102]
- 18. S.K.Adapa, S.Dowluru, and **Jagadish** (2021) Classification and Automatic Feature-based Extraction approach for cylindrical and Milling Parts. International Journal of Manufacturing, Materials, and Mechanical Engineering (IJMMME), 11(3): 280620-034011, DOI: 10.4018/IJMMME.2021070104 [**ESCI, Scopus, IF-0.64**].
- 19. **Jagadish**, S.Kumar, D.L.Soni (2021) Performance Analysis and Optimization of Different Electrode Materials and Dielectric Fluids on Machining of High Carbon High Chromium Steel in Electrical

- Discharge Machining. Proceedings of the National Academy of Sciences, India Section A: Physical Sciences, 92, 273–284. https://doi.org/10.1007/s40010-020-00727-4 [SCIE-IF-1.291].
- 20. A.Badgujar, **Jagadish**, S. Barad, S.Patil (2020) Finite Element Modal Analysis of Bamboo Based Tricycle. International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),10(SI):434-439;DOI:10.9734/BJMCS/2015/13451 [**Scopus**].
- 21. B.K.Baroi, T.Debnath, **Jagadish**, P.K.Patowari (2020) Machinability assessment of titanium grade 2 alloy using deionized water in EDM. Materials Today: Proceedings, 26(2), 2221-2225; DOI:10.1016/j.matpr.2020.02.482 [**Scopus**].
- 22. T.Debnath, B.K.Baroi, **Jagadish**, P.K. Patowari (2020) Machinability study of 430 stainless steel using tap water in EDM. Materials Today: Proceedings, 26(2), 2179-2183; https://doi.org/10.1016/j.matpr.2020.02.475 [**Scopus**].
- 23. **Jagadish**, D.L.Soni and S.Barad (2020) Prediction of Mechanical properties of Fe 415 Steel in hot rolling process using Artificial Neural Network. Transactions of The Indian Institute of Metals, 73, 1535–1542; DOI:10.1007/s12666-020-01928-6 [**SCI-IF:1.391**].
- 24. J.Reddy, S.Debnath, B.Das, and **Jagadish** (2019) Energy and exergy analysis of wavy plate solar air collector using a novel hybrid expert system. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 41, 397. https://doi.org/10.1007/s40430-019-1901-x [SCIE-IF:2.361].
- 25. R.Majumder, **Jagadish**, and A.Biswas (2019) Experimental investigation of performance of an unglazed rectangular duct solar flat plate absorber using tracer dye method. The Journal of Institute of Engineers India Series-C: 101(1):105-114, https://doi.org/10.1007/s40032-019-00536-8 [**Scopus**].
- 26. S.Debnath, J.Reddy, B.Das, and **Jagadish** (2019) Modeling and Optimization of Flat Plate Solar Air Collector: An Integrated Fuzzy Method. Journal of Renewable and Sustainable Energy, 11, 043706, https://doi.org/10.1063/1.5050896 [SCIE-IF-2.847].
- 27. S.Debnath, J.Reddy, **Jagadish** and B.Das (2019) An Expert system-based modeling and optimization of corrugated plate solar air collector for North Eastern India. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 41, 273. https://doi.org/10.1007/s40430-019-1782-z. [**SCIE-IF-2.361**].
- 28. S.Debnath; J.Reddy; **Jagadish**; and B.Das, (2019) Investigation of thermal performance of SAC using Fuzzy logic based expert system. Journal of Mechanical Science and Technology, 33(8),4013-4021,DOI-10.1007/s12206-019-0543-3 [**SCIE-IF-1.80**].
- 29. J.H.Biswas, **Jagadish**, and A. Ray (2019) Experimental investigation and optimization of USM ultrasonic machining parameters on Zirconia (ZrO₂) composite. International Journal of Machining and Machinability of Materials,21(1/2),115-137; DOI:10.1504/IJMMM.2019.098071 [**Scopus**].
- 30. **Jagadish**, S.Bhowmik, and A. Ray (2018) Development of fuzzy logic-based decision support system for multi-response parameter optimization of green manufacturing process: A case study. Soft Computing, 23, 11015–11034. https://doi.org/10.1007/s00500-018-3656-1 [SCIE-IF- 3.732].
- 31. **Jagadish**, M. Rajakumaran, A. Ray (2018) Investigation on mechanical properties of pineapple leaf based short fiber reinforced polymer composite from selected Indian (north eastern part) cultivars. Journal of Thermoplastic Composite Materials, 33(3), 324-342, DOI: 10.1177/0892705718805535. (**SCI-IF-3.027**)

- 32. Jagannath R, **Jagadish**, Charanraj, N., Praveen M.N., Sai RYD., Sathish KB (2018) Factors Affecting Implementation of Green Supply Chain Management in Tech Manora Packing: A Case Study. International Journal of Engineering &Technology, 7 (3.12), 171-174 [**Scopus**].
- 33. **Jagadish**, Amitava Ray (2018) Design and performance analysis of ultrasonic horn with a longitudinally changing rectangular cross section for USM using finite element analysis, Journal of the Brazilian Society of Mechanical Sciences and Engineering, 40:359, https://doi.org/10.1007/s40430-018-1281-7 [**SCIE-IF-1.627**].
- 34. A.S.Singh, S. Halder, J.Wang, and **Jagadish** (2017) Extraction of bamboo micron fibers by optimized mechano-chemical process using a central composite design and their surface modification, Materials Chemistry and Physics. 199, 23-33; https://doi.org/10.1016/j.matchemphys.2017.06.040. [**SCI-IF- 4.78**].
- 35. S.Roy and **Jagadish** (2016) Design of a circular hollow ultrasonic horn for USM using finite element analysis, The International Journal of Advanced Manufacturing Technology, 93, (1–4),319–328; DOI: https://doi.org/10.1007/s00170-016-8985-6 [SCIE-IF- 3.56].
- 36. **Jagadish**, Sumit Bhowmik, Amitava Ray (2015) Prediction and optimization of process parameters of green composites in AWJM process using Response Surface Methodology. International Journal of Advanced Manufacturing Technology, 87(5): 1359-1370, DOI: 10.1007/s00170-015-8281-x. [**SCIE-IF: 3.471**].
- 37. **Jagadish**, Sumit Bhowmik, Amitava Ray (2015) Prediction of surface roughness quality of green abrasive water jet machining: A soft computing approach. Journal of Intelligent Manufacturing: 30, 2965–2979 (2019). https://doi.org/10.1007/s10845-015-1169-7; [SCIE-IF-6.201]
- 38. **Jagadish**, Amitava Ray, (2014) Optimization of process parameters of green electrical discharge machining using principle component analysis (PCA). The International Journal of Advanced Manufacturing Technology, 87(5):1299-1311, DOI:10.1007/s00170-014-6372-8, [SCIE-IF- 3.56].
- 39. **Jagadish**, Amitava Ray (2014) Multi-objective optimization of green EDM: an integrated theory The Journal of Institute of Engineers India Series-C: 96(1),41–47 https://doi.org/10.1007/s40032-014-0142-0 [**Scopus**].
- 40. **Jagadish**, A.Ray (2014) Green cutting fluid selection using multi-attribute decision making approach. The Journal of Institute of Engineers India Series-C: 96(1), 35-39; https://doi.org/10.1007/s40032-014-0126-0. [**Scopus**].
- 41. **Jagadish**, A. Ray (2014) Green cutting fluid selection using MOOSRA method. International Journal of Research in Engineering and Technology, 03(03), 559-563.
- 42. S. Saket, V. Purbey, **Jagadish**, A. Ray (2014) Multi attributes decision making for mobile phone selection. International Journal of Research in Engineering and Technology, 03(03), 497-501.

Papers published in Books International Conferences:

1. **Jagadish** (2023), Experimental Investigation and Its Parametric Analysis of AWJM Process Parameters on Surface Quality of Green Composites. Presented in "1st International Conference on Mechanical Engineering: Researches and Evolutionary Challenges (ICMech-REC-2023) held during 23-25 June 2023 at NIT Warangal

- 2. B.K.Bario., Debnath, T., **Jagadish**, & P. K Patowari, (2022). Parametric Analysis of Machining of Titanium Grade-2 Alloy in EDM Under Tap Water. Presented In International Conference on Recent Advancements in Mechanical Engineering (ICRAME-2021) held during 7th- 9th February 2021at NIT Silchar.
- 3. B.K.Bario., Debnath, T., **Jagadish**, & P. K. Patowari, (2022). A State-of-the-Art Review on Surface Modification Techniques in Electric Discharge Machining. Presented in North-East Research Conclave (NERC 2022) during 20th- 22nd May 2022 at IIT Guwahati.
- 4. Shashwat Tiwari & **Jagadish** (2022) Recent Advancement in Sustainable Hybrid Fiber Reinforced Biocomposite: A State of Art. Presented at online *in International Conference on "Emerging Trends in Mechanical and Industrial Engineering (ICETIME-2022)* held on 4th & 5th March 2022 at The North cap University, Gurugram, Haryana, India.
- 5. Adarsh Chouhan & **Jagadish** (2022) Machine Learning Opportunities & Implementation for Business Management: A State of Art Presented at online *in International Conference on "Emerging Trends in Mechanical and Industrial Engineering (ICETIME-2022)* held on 4th & 5th March 2022 at The North cap University, Gurugram, Haryana, India.
- 6. Dheeraj Lal Soni & **Jagadish** (2022) Selection of Nature-Inspired Surface Texture for Machining Applications: An MCDM approach. Presented *Online International Conference on Advances in Mechanical Engineering, Industrial Informatics and Management*—(AMEIIM-2022) held on 25th -26th February 2022 at NIT Raipur, India.
- 7. B.K.Bario, **Jagadish**, P.K. Patowari (2022) Parametric study of electric discharge machining of titanium grade 2 alloy in distilled water. *Presented in International Conference on Materials & Manufacturing Technologies- (Material-Tech* 2022) held on 28-29th January 2022 at NIT Raipur, India.
- 8. Sivasankara Raju, Sathish Kumar Adapa, **Jagadish** (2022) Evaluation of Thermo-Mechanical Behavior of Hemp Fiber Polymer Composites (Paper ID: 191) presented in "*International Conference Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT 2022)*" held on 20-22nd January 2022 at IITRAM and SSME (SAC, ISRO). Ahmedabad, India.
- 9. Sivasankara Raju, Sathish Kumar Adapa, **Jagadish**, Sagar Yanda (2022) Optimization of AWJM process on processing of Lite bamboo reinforced polymer composites by using Grasshopper algorithm (Paper ID: 191) presented in "*International Conference Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT 2022)"* held on 20-22nd January 2022 at IITRAM and SSME (SAC, ISRO). Ahmedabad, India.
- 10. Sagar Yanda, **Jagadish**, NV Swamy Naidu, Sathish Kumar Adapa, Sivasankara Raju (2022) Structural and Thermal analysis of Modified Ventilated paperboard Using Finite Element Analysis (Paper ID:193) presented in "International Conference Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT 2022)" held on 20-22nd January 2022 at IITRAM and SSME (SAC, ISRO). Ahmedabad, India.
- 11. Surajit Barad, **Jagadish**, Sagar Yanda and Sathish Kumar Adapa (2022) Experimental optimization of green FDM process parameters: An integrated MCDM approach (Paper ID :213), presented in "International Conference Futuristic Advancements in Materials, Manufacturing and Thermal Sciences (ICFAMMT 2022)" held on 20-22nd January 2022 at IITRAM and SSME (SAC, ISRO). Ahmedabad, India.

- 12. Sandeep Kumar, **Jagadish**, Andeep Kumar Singh, Narendra Kumar (2020) Multi-objective optimization of CNC drilling parameters on HcHcr steel using Taguchi's based utility concept & GRA-PCA methods. *Proceedings of International Conference on Advances in Mechanical Engineering (ICAME2020)* held on 9th-10th July 2020 & Published in International Journal of Advanced Engineering Science and Technological Research (IJAESTR), ISSN:2394-9627 [Special Issue ICAME2020], pp-55-63.
- 13. Sandeep Kumar, **Jagadish**, Amitava Ray (2020) Multi-objective Optimization of CNC Drilling Parameters on Machining of HcHcr Steel Using Taguchi's and Grey Relational Analysis, *Proceedings of International Conference on Thermal Engineering and Management Advances, held in December 19-20, 2020 at Jalpaiguri Government Engineering College, Jalpaiguri, WB, India.* Published as Lecture notes in S. K. Ghosh et al. (eds.), Advances in Thermal Engineering, Manufacturing, and Production Management, https://doi.org/10.1007/978-981-16-2347-9_31[Scopus]
- **14. Jagadish,** Kapil Gupta, Maran Rajakumaran (2018) Evaluation of machining performance of pineapple filler based reinforced polymer composites using abrasive water jet machining process. *Proceedings of Conference of the South African Advanced Materials Initiative (CoSAAMI-2018) held on 23rd-26th October 2018, Riverside Sun, South Africa in IOP Conf. Series: Materials Science and Engineering 430,012046, 1-7, doi:10.1088/1757-899X/430/1/012046 [Scopus]*
- **15. Jagadish**, Sumit Bhowmik, Amitava Ray, Suresh Gudala (2018) Cutting Fluid Selection for Environmentally Conscious Design for Manufacturing: An Integrated Theory. *Proceedings of Renewable Energy Technologies: Issues and Perspectives (RETIP 2017) held on 25th September 2018 at NIT Silchar in Conference Proceedings of AIP, 1998, 020010-1–020010-7. https://doi.org/10.1063/1.5049106 [Scopus].*
- **16. Jagadish**, Sumit Bhowmik, Amitava Ray, Maran Rajakumaran (2018) Optimization of Process Parameters using Fuzzy-Grey Relational Analysis (F-GRA) for Green EDM. *Proceedings of Renewable Energy Technologies: Issues and Perspectives (RETIP 2017) held on 25th September 2018 at NIT Silchar in Conference Proceedings of AIP, 1998, 020011-1–020011-9; https://doi.org/10.1063/1.5049107 [Scopus].*
- 17. Jagannath Reddy, **Jagadish** (2018) 'Risk Factors Involved in Green Supply Chain Management: A Review', Presented in *Global conference on Smart Innovation in Engineering Systems and Technology* (SIEST-2018), held on 18th-19th May 2018 at RLJIT Doddaballapur, Bangalore, India (ISSN 2227-524x)
- 18. Rajnish Kumar, **Jagadish**, Amitava Ray (2014) Selection of material for optimal design using multicriteria decision making, *International Conference on Materials Processing and Characterisation*, held on 8th-9th March, 2014 at GRIET Hyderabad, India in Conference Proceedings of *Procedia Material Science*, 6,590–596. [Scopus]
- 19. **Jagadish**, Amitava Ray (2014) Cutting fluid selection for sustainable design for manufacturing: an integrated theory, *International Conference on Materials Processing and Characterisation*, held on 8th-9th March, 2014 at GRIET Hyderabad, India. in Conference Proceedings of *Procedia Material Science*, 6, 450-459.
- **20. Jagadish**, Amitava Ray (2015) A fuzzy muti-criteria decision making model for green electrical discharge machining. *International Conference on Soft Computing for Problem Solving (SoCPro-2014)*, held on 27th-29th December 2014 at NIT Silchar, India in Conf. Published in *Advances in Intelligent Systems and Computing*, 335, pp 33-43 [Scopus]

21. Jagadish, Amitava Ray (2014) Optimization of green electrical discharge machining using an integrated approach, 2nd International Conference on Industrial Engineering and Engineering Management, held on 09th-12th December 2014, at Kuala Lumpur, Malaysia, in Conference Proceedings of IEEE, 978(14)943-947 [Scopus]

Papers published in National Conferences:

- 1. Patil S.B., **Jagadish**, Vaidya S., Adapa S.K. (2022) Evaluation of Machining Properties of Short Bamboo Fiber-Based Green Composites Using CNC Drilling Process. In: Srinivasa Pai P., Krishnaraj V. (eds) Sustainable Machining Strategies for Better Performance. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-2278-6_11; Presented paper in *National e-Conference on Sustainable Machining Strategies for Better Performance (NCSMSBP-2020)* from November 27-28, 2020, held at NMAM Institute of Technology, NITTE- 574110 Karnataka, India.
- 2. **Jagadish**, Amitava Ray, Madhab Chandra Mandal (2018) Green Cutting Fluid Selection for Electrical Discharge Machining using TOPSIS Method. Presented in the 3rd Regional Science and Technology Congress-2018, West Bengal (Northern Region) held on 12th & 13th December 2018 at Jalpaiguri Engineering College, Jalpaiguri, WB, India.
- 3. Ankurima Borah, **Jagadish** (2018) A Multi Criteria Decision Making Approach for Rapid Prototyping Process Selection, Proceedings of IRF International Conference, 17th March, 2018, Hyderabad, India, pp-1-5. (ISBN-978-93-87405-19-6).

Papers published as Book:

- Book:- Sumit Bhowmik, Jagadish, Gupta, Kapil (2018), Modeling and Optimization of Advanced Manufacturing Processes, Edition 1, Series title Manufacturing and Surface Engineering, Springer, eBook ISBN: 978-3-030-00036-3, Series ISSN: 2365-8223, DOI: 10.1007/978-3-030-00036-3
- 2. **Book-2:- Jagadish**, Gupta, Kapil (2020), Abrasive Water Jet Machining of Engineering Materials, Edition 1, Series title Manufacturing and Surface Engineering, Springer, eBook ISBN: 978-3-030-36001-6, Series ISSN: 2365-8223, DOI: 10.1007/978-3-030-36001-6
- 3. **Book-3:- Jagadish**, Agnimitra Biswas (2020), Modeling and Optimization of Solar Thermal Systems: Emerging Research and Opportunities, IGI Global, Pages-170, ISBN:9781799835233, DOI:10.4018/978-1-7998-3523-3
- 4. **Book-4:- Jagadish**, Sumit Bhowmik (2021), Manufacturing and Processing of Natural Filler Based Polymer Composites, Edition 1, Series title Springer Briefs in Applied Sciences and Technology, **Springer**, eBook ISBN: 978-3-030-65362-0, Series ISSN: 2191-530X, DOI: 10.1007/978-3-030-65362-0
- 5. **Book-**5:- Biplab Das, **Jagadish** (2023), Evolutionary Methods Based Modeling and Analysis of Solar Thermal Systems-A Case Studies Approach. Published in "Mechanical Engineering Series-Springer. ISSN:0941-5122, ISBN: 978-3-031-27634-7

Papers published as Book Chapters:

- 1. **Book Chapter:** Sumit Bhowmik, **Jagadish**, Amitava Ray (2017) "Abrasive Water Jet Machining of Composites Materials", Book Name: Advanced Manufacturing Technologies, Springer, (ISBN 978-3-319-56098-4), Page-77-97.
- Book Chapter: Sumit Bhowmik, Jagadish (2017) "Multi-criteria decision making for optimization of product development under green manufacturing environment", Book Name: Design and Optimization of Mechanical Engineering Products, IGI Global, India Page- 234-249. DOI: 10.4018/978-1-5225-3401-3.ch012, ISBN10: 1522534016
- 3. **Book Chapter:** Agnimitra Biswas, **Jagadish**, Rajat Gupta (2018) An hybrid MCDM method for optimization of VAWT performance parameters. Book Name: Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues, IGI Global, India, DOI: 10.4018/978-1-5225-8579-4, ISBN13: 9781522585794, Ch.11.
- 4. **Book Chapter:** Sumita Debbarma, Biplab Das, **Jagadish** (2019) Optimization of performance and emissions parameters of a biodiesel run diesel engine: An integrated MCDM approach. Book Name: Advanced Multi-Criteria Decision Making for Addressing Complex Sustainability Issues, IGI Global, India, DOI: 10.4018/978-1-5225-8579-4, ISBN13: 9781522585794. Ch.6, Pages-115-138.
- 5. **Book Chapter:** Jagannath Reddy, **Jagadish,** Biplab Das (2019) Study on Effect of Barriers in Green Supply Chain Management Using Modified SAW Technique: A Case Study. Book Name: Optimizing Current Strategies and Applications in Industrial Engineering, IGI Global, India, Page:202-219, DOI: I: 10.4018/978-1-5225-8223-6, ISBN13: 9781522582236.ch009.
- Book Chapter: Jagadish, Sumith Bhowmik, Suresh Gudala (2019) Hybrid multi-criteria decision-making optimization strategy for RP material selection: A Case study. Book Name: Optimizing Current Strategies and Applications in Industrial Engineering, IGI Global, Page:320-334, DOI:10.4018/978-1-5225-8223-6, ISBN13: 9781522582236.ch015.
- 7. **Book Chapter: Jagadish,** Sumith Bhowmik (2019) Parameters Optimization of FDM for the Quality of Prototypes using an integrated MCDM approach. Book Name: Additive Manufacturing Technologies from an Optimization Perspective, IGI Global, India, Pages-199-220, DOI: 10.4018/978-1-5225-9167-2, ISBN13: 9781522591672.ch10
- 8. **Book chapter:-** G.C.Manjunath Patel, **Jagadish**, Rajana S.K., and Swamy Naidu N.V. (2020) Optimization of Abrasive Water Jet Machining for Green Composites Using Multi-variant Hybrid Techniques. In: Gupta K., Gupta M. (eds) Optimization of Manufacturing Processes. Springer Series in Advanced Manufacturing. Springer, Cham-Pages:129-162; https://doi.org/10.1007/978-3-030-19638-7_6; ISBN: 978-3-030-19638-7.
- 9. **Book Chapter:-** Surya Kanth, Sumita Debbarma, **Jagadish** and Biplab Das (2020) Application of MCDM Technique for the Selection of Biodiesel Fuel Blend for Sustainable Motorization. Book Name: Sustainability modeling in engineering: A multi-criteria perspective, World Scientific Publishers, Singapore, Page:337-358 (ch015)-ISBN:978-981-3276-32-1.
- 10. **Book Chapter:- Jagadish**, Agnimitra Biswas (2021) Modeling and optimization of performance of a straight bladed H-Darrieus Vertical axis wind turbine in low wind speed condition: A hybrid Multiple-criteria decision-making approach. Book Name: Modelling, Optimization and Control Advances in

- Nonlinear Dynamics and Chaos (ANDC), Pages 427-443(ch19), https://doi.org/10.1016/B978-0-12-820004-9.00010-3. ISBN: 978-0-12-820004-9
- 11. **Book Chapter:- Jagadish**, and Manjunath, G. C (2021) "Modeling and optimization of AWJM process on the processing of Banana fiber-reinforced polymer composites using Taguchi-JAYA method". Soft Computing in Smart Manufacturing: Solutions toward Industry 5.0, edited by Tatjana Sibalija and J. Paulo Davim, Berlin, Boston: De Gruyter, 2021, pp. 253-270. https://doi.org/10.1515/9783110693225-008 (ISBN: 9783110693225)
- 12. **Book Chapter:-** Surajit Barad, **Jagadish**, Sagar Yanda, Sathish Kumar Adapa (2022) "Experimental Optimization of Green FDM Process Parameters: An Integrated MCDM Approach". Book Name: Advances in Manufacturing Engineering, DOI: 10.1007/978-981-19-4208-2, ISBN 978-981-19-4207-5, Springer.
- 13. **Book Chapter:-** Sathish Kumar Adapa, **Jagadish**, Sagar Yanda, Siva S. Raju (2022) "Optimization of AWJM Process on Processing of Lite Bamboo Reinforced Polymer Composite by Using Grasshopper Algorithm". Book Name: Advances in Manufacturing Engineering, DOI: 10.1007/978-981-19-4208-2, ISBN 978-981-19-4207-5, Springer.
- 14. **Book Chapter:** Jagannath Reddy, **Jagadish**, and Biplab Das (2022) "Optimization Analysis of a Stand-Alone Hybrid Energy System for the Classroom at RLJIT, Doddaballapur, Southern Part of India". Book Name: B. Das et al. (eds.), Advances in Smart Energy Systems, Smart Innovation, Systems and Technologies 301, https://doi.org/10.1007/978-981-19-2412-5_1; ISBN 978-981-19-2411-8, Springer
- 15. **Book Chapter:** Binoy Kumar Baroi, Tapas Debnath, **Jagadish**, and P. K.Patowari (2022) "Parametric Analysis of Machining of Titanium Grade-2 Alloy in EDM Under Tap Water". Book Name: T. S. Sudarshan et al. (eds.), Recent Advancements in Mechanical Engineering, Lecture Notes in Mechanical Engineering, https://doi.org/10.1007/978-981-19-3266-3_46; ISBN 978-981-19-3265-6, Springer
- 16. **Book Chapter:** Shashwat Tiwari & **Jagadish** (2023) Recent Advancement in Sustainable Hybrid Fiber-Reinforced Biocomposites: A State of the Art. Book Name: Emerging Trends in Mechanical and Industrial Engineering, DOI: 10.1007/978-981-19-6945-4; ISBN 978-981-19-6944-7, Springer.
- 17. **Book Chapter:** Yanda, S., **Jagadish**, Swamy Naidu, N.V., Adapa, S.K., Sivasankara Raju (2023). Structural and Thermal Analysis of Modified Ventilated Paperboard Using Finite Element Analysis. In: Pramod P., B., Desai, U.B., Goel, S. (eds) Advances in Material Science and Metallurgy. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-19-4918-0_21, Print ISBN 978-981-19-4917-3, Springer.

Workshops/STTPs Organized:

- Four days Self-Financed STTP on "MOBI ROBOTICS" organized by NIT Silchar with IIT Delhi during 21th -23rd September, 2014.
- ◆ One week workshop on "Computational Mechanics and Modeling (CMM-2016)" organized by NIT Silchar, sponsored by TEQUIP-II, NIT Silchar during 12th-16th November, 2016.
- → One week STTP on "Advances in Mechanical, Industrial Engineering and Management (AMIEM-2019)" organized by NIT Raipur during 09th-13th April, 2019.
- → One Day "Regional Orientation Workshop for Participating Institute under Unnat Bharat Abhiyan (UBA2.0)" organized by RCI-NIT Raipur on 07th September, 2019.

- ◆ One-week National Workshop on "3D Printing and Design in Engineering Applications (3DPDEA-2019)" Sponsored by AICTE under ATAL Program and organized by Department of Metallurgical and Materials Engineering & Department of Mechanical Engineering, NIT Raipur during 02nd-06th December, 2019.
- ♣ One-week National Workshop on "Recent Advancement in Polymer Materials and Nano Materials for Engineering Applications (RAPNEA-2019)" organized by Department of Mechanical Engineering, NIT Raipur during 09th-13th December, 2019.
- ◆ One-Day "Interaction program for participating institutes under Unnath Bharat Abhiyan (UBA2.0)" organized by Regional Coordinating Institute, UBA Unit, NIT Raipur on 24th January, 2020.
- Five Days STTP on "Advances in Mechanical, Industrial Engineering and Management (AMIEM-2021)" organized by Department of Mechanical Engineering, NIT Raipur & Vishwavidyalaya Engineering College Lakhanpur during 09th-13th March, 2021.
- Five Days Webinar on "Web Based Webinar on Unnat Bharat Gram Arogya Series: A Virtual Learning Initiative and Health Awareness Program on COVID-19" organized by Regional Coordinating Institute, UBA Unit, NIT Raipur during 25th-29th July, 2021.
- [♣] Two Days Conference i.e., 2nd International Conference on Materials & Technology (MaterialTECH2022) organized in collaboration with Department of Mechanical Engg. & Department of Materials and Metallurgical Engg, NIT Raipur during 28th-29th January, 2022.
- **↓** Two Days Conference i.e. 2nd International Conference on International Conference on Advance in Mechanical Engineering, Industrial Informatics and Management (AMEIIM2022) organized in collaboration with Department of Mechanical Engg., NIT Raipur during 25th-26th February , 2022.

Awards/Achievements:

- **◆ Second Prize** in Technology demonstration event in Tech4Seva conducted by Unnat Bharat Abhiyan 2.0, NIT Raipur in July 2022
- ♣ The "Best Research Paper Award (Gold Medal)" by Institute of Engineers in 2016,
- The "Best Innovative Paper Award" by Springer in 2014;
- ♣ The "Pat on Back Award" by InfoTech enterprises Ltd. Hyderabad (Now Cyeint Ltd) in 2011;
- ♣ The "Team of Month Award" by InfoTech enterprises Ltd. Hyderabad (Now Cyeint Ltd.) in 2012.

Administrative Responsibility (@ NIT Raipur & NIT Silchar)

- ♣ Prof. In Charge of (Material Processing & Advance Manufacturing Lab, Computational Laboratory)
- Prof. In Charge of Internship/Industrial Training
- ♣ Prof. In Charge of Alumni Relation & Resource Generation Cell
- **♣** Departmental Coordinator of Industry Institute Interaction Cell
- ♣ Warden for (Boys Hostel-6, Radhakrishna Hall)
- ♣ Faculty Advisor for UG/PG/PhD Admission
- **♣** Committee Member of NBA Accreditation
- ♣ Committee Member of Unnath Bharat Abhiyan Cell at NIT Raipur

- Member of Purchase Committee of UBA2.0
- Member of Anti-Ragging Committee

Membership of Professional Societies:

- **Associate Member,** Institute of Engineers India (AM159404-7) since from 2014.
- **Member** of American Society of Mechanical Engineers (ASME000101981398) since from 2015

Invited talks / lectures delivered

- Resource speaker: on "Introduction to Sampling Distribution & Estimation of Confidence Interval for Research Work" at Karnataka Science and Technology Academy (KSTA), Department of Science and Technology, Government of Karnataka, Vidyaranayapura Post, Bangalore during a five day webinar on "Statistical Data Analysis for Research Work" for science & engineering Research Students/ teaching faculty on 22nd January 2024.
- Resource speaker: on "Experimental Design for Research Work" at Karnataka Science and Technology Academy (KSTA), Department of Science and Technology, Government of Karnataka, Vidyaranayapura Post, Bangalore during a five day webinar on "Statistical Data Analysis for Research Work" for science & engineering Research Students/ teaching faculty on 18th January 2024.
- ♣ Guest speaker: on "Design of Experiments for Mechanical Engineers" at Department of Mechanical Engineering, NITTE Meenakshi Institute of Technology, Yelahanka, Bangalore, Karnataka, India on 16th December 2023.
- ♣ Guest speaker: on "Optimization of Nanocomposite using MiniTab" at Department of Mechanical Engineering, Dept. of Mechanical Engineering, PES Institute of Technology and Management, Shivamogga, Karnataka, India on 12th December 2023.
- ♣ Guest speaker: on "Data Analytics for Mechanical Engineers" at Department of Mechanical Engineering, MVJ College of Engineering, Bangalore, Karnataka, India. on 27th July 2023
- ♣ Invited Lecture: on "Synthesis & Characterization of Green Composite" at Department of physics, Gandhi Institute of Technology and Management (GITAM) Hyderabad campus on 27th October 2022.
- ♣ Invited Lecture: on "Machining of Green Composites: Issues & Challenges" at Department of Mechanical Engineering, CMR Technical Campus, Hyderabad on 10th 11th November 2022.
- ♣ Expert Talk on "Soft Computing Techniques in Mechanical Systems: Issues & Challenges", The DST-funded 7-day Training Program on "Role of IoT & Machine Learning in Design and Manufacturing" which is scheduled to be held at Aditya Institute of Technology and Management (AITAM), Tekkali, Srikakulam from 11th 17th July 2022
- ♣ Expert Talk on "Materials for 3D Printing", Online FDP on 3D Printing & Design Organized by Department of Mechanical Engineering Christian College of Engineering & Technology, Bhilai, CG during December, 14-18, 2021.
- ♣ Expert Talk on "Modeling and Optimization of Manufacturing Process using Fuzzy Logic based Expert system" Five Days Online Faculty Development Program On "Emerging Optimization"

- Techniques For Engineering Applications" held on 19th-30th April 2021 at Department of Mechanical Engineering, IIITDM Kurnool, A.P, India
- ♣ Expert Talk on "Application of MCDM Methods in Solar Thermal Systems" Five Days Online Faculty Development Program On "Recent Advances In Solar Energy, Optimization And It Applications" held on 23rd-27th November 2020 at Department of Mechanical Engineering, NITTE Meenakshi Institute of Technology, Yelahanka, Bangalore, Karnataka, India
- ♣ Expert Talk on "Application of Fuzzy Based Expert System in Modeling of Solar Air Collectors" Five Days Online Faculty Development Program On "Recent Advances In Solar Energy, Optimization And It Applications" held on 23rd-27th November, 2020 at Department of Mechanical Engineering, NITTE Meenakshi Institute of Technology, Yelahanka, Bangalore, Karnataka, India
- ♣ Expert Talk on "Thermal System Modeling: Issues & Challenges" Five Days Online Faculty Development Program On "Recent Advances In Solar Energy, Optimization And It Applications" held on 23rd-27th November 2020 at Department of Mechanical Engineering, NITTE Meenakshi Institute of Technology, Yelahanka, Bangalore, Karnataka, India
- ♣ Keynote Speech on "Artificial Intelligence: Concept & Applications" One Day Int. Conference on "Artificial Intelligence and Computer Science" held on 20th November 2020 at Presidency College Berhampur, Odisha India.
- ♣ Expert Talk on "Product Design and Development: Issues & Challenges" Five days FDP on "Operation Management", October, 5th-9th, 2020 held at Mechanical Engineering Department at CCET Bhilai, (C.G.), India.
- ♣ Guest Speaker on topic "Engineering as Career: A Roadmap" one day webinar on 23rd August, 2020 Govt. Enginhering College Nawada, Bihar, India.
- ♣ Keynote Speech on "Green Composites Machining: Issues & Challenges with Real Life Applications" Two days international conference on "Advances in Mechanical Engineering", July, 9th-10th, 2020 held at Mechanical Engineering Department, SATI(Engineering College) Vidisha M.P India, India.
- ♣ Expert Talk on "Green Composites Machining: Issues & Challenges" Three days FDP on "SOLAR ENERGY-The future is Bright", June, 25th-29th, 2020 held at School of Mechanical Engineering Reva University Bangalore, Karnataka, India.
- ♣ Expert Talk on "Thermal System Modeling: Issues & Challenges" Five days FDP on "Advances in Machining Process", June, 17th-19th, 2020 held at Mechanical Engineering Department at PESITM Shivamogga, Karnataka, India.
- ♣ Expert Talk on "Green Composites: Processing and Characterization using Advanced Manufacturing Processes" One week Workshop on "Advances in Materials, Processing and Characterization" August 26th-30th, 2019 held at Mechanical Engineering Department, National Institute of Technology Raipur, India.
- ♣ Expert Talk on "Additive Manufacturing Technologies" National Workshop on "3D Printing and Design in Engineering Applications (3DPDEA-2019), December 02nd-06th, 2019 held at Mechanical Engineering Department, National Institute of Technology Raipur, India.
- Expert Talk on "Overview on green manufacturing and its optimization issues in real life Page 14 of 15

manufacturing applications" One-week self-financed Short Term Training Program on Advances in Manufacturing Technique from 27th February to 2nd March 2016 held at Mechanical Engineering Department, National Institute of Technology Silchar, India.

- ♣ Guest Talk on "Art of writing research paper" scheduled on 22ndApril 2019 at Mechanical Engineering Department, RSR Rungta college of Engineering and Technology, Bhilai, C.G, India.
- ♣ Keynote Speech on" Green Manufacturing: Issues & Prospects in Real Life Manufacturing Systems "at AICON-19 from 26th April to 27nd April 2019 held at Department of Mechanical Engineering and Mechatronics Engineering, Chhatrapati Shivaji Institute of Technology, Durg (Chhattisgarh), India.

> Reviewer

- o Journal of Intelligent Manufacturing (Springer);
- o Journal of the Brazilian Society of Mechanical Sciences and Engineering (Springer)
- o Journal of Sustainable Engineering (Taylors & Fancies)
- Materials Today: Proceedings (Elsevier)
- o Materials Chemistry and Physics (Elsevier)
- o Journal of Mechanical Science and Technology (Springer)
- o International Journal of Machining and Machinability of Materials (Inderscience)
- o Advances in Intelligent Systems and Computing (Springer),
- o Journal of Pedagogical Research
- o International Journal of Engineering Research & Technology
- o Journal of Manufacturing Systems (Springer)
- o Journal of Thermoplastic Composite Materials (Sage, Publisher), etc

Software Skills

- Minitab/ Design Expert / SPSS
- **♣** R-Programming/SEMSTAT/Python
- **♣** MATLAB
- ♣ Auto CAD/CAD/CAM/FEA Software's