

Curriculum Vitae

Name : Debasish Das
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Date of Birth : 15th March 1989
ORCID ID : [0000-0002-2020-1497](https://orcid.org/0000-0002-2020-1497)
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Academic Details:

Indian Institute of Technology, Kharagpur, Kharagpur-721302, West Bengal, India

Ph.D., Department of Mechanical Engineering, February 2021

Dissertation: Predictive tools for bead-geometry, cooling rate, micro-porosity, natural frequency of vibration and residual stress in electron beam welded stainless steel plates.

Important Dates :	Registration 11/07/2013	Thesis Submission 10/12/2019	Defense 18/07/2020	Final Degree Awarded 23/02/2021
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National Institute of Technology, Durgapur - 713209, West Bengal, India

Master of Technology, Department of Mechanical Engineering, 2013, CGPA: 8.53/10

Dissertation: An investigation on pre-discharge phenomenon through dielectric medium.

National Institute of Technology, Durgapur - 713209, West Bengal, India

Bachelor of Technology, Department of Mechanical Engineering, 2010, CGPA: 7.69/10

All India Senior School Certificate Exam (AISSCE), Central Board of Secondary Education (C.B.S.E),

Kendriya Vidyalaya, IIT Kharagpur Complex-721302, West Bengal, India

Higher Secondary education, 2006, Overall percentage: 75.6%

All India Secondary School Examination (AISSE), Central Board of Secondary Education (C.B.S.E),

Kendriya Vidyalaya, Burdwan-713101, West Bengal, India

Secondary education, 2004, Overall percentage: 89.6%

Research Interest:

Electron Beam Welding	Finite Element Modeling	Mechanical Tests and Microstructure
Soft-Computing-based Modeling	Phenomenological Modeling,	

Publication Details:

<u>Number of Publications</u>	
SCI/SCIE Journals	13
Conferences	4
Book-Chapter	3

<u>Google Scholar Citation Details</u>		
Citations	104	104
h-index	6	6
I10-index	3	3

(a) Peer Reviewed Journals:

- Das, D., Pratihara, D.K. and Roy, G.G. Modeling of Beam divergence. Optik, 256, 2022, p.168747, <https://doi.org/10.1016/j.ijleo.2022.168747>, Impact Factor (2020): 2.443.
- Das, D., Bal, K.S., Pratihara, D.K. and Roy, G.G. Correlating the weld-bead's 'macro-, micro-features' with the weld-pool's 'fluid flow' for electron beam welded SS 201 plates. International Journal of Mechanical Sciences, 210, 2021, pp. 106734, <https://doi.org/10.1016/j.ijmecsci.2021.106734>, Impact Factor (2020): 5.329.

3. Das, D., Das, A.K., Pal, A.R., Jaypuria, S., Pratihari, D.K. and Roy, G.G. Meta-Heuristic Algorithms-tuned Elman vs. Jordan Recurrent Neural Networks for Modeling of Electron Beam Welding Process. *Neural Processing Letters*, 53(2), 2021, pp. 1647-1663. <https://doi.org/10.1007/s11063-021-10471-4>, Impact Factor (2020): 2.908.
4. Das, D., Jaypuria, S., Pratihari, D.K. and Roy, G.G. Weld Optimization (Review). *Science and Technology of Welding and Joining*, 26(3), 2021, pp. 181 – 195. <https://doi.org/10.1080/13621718.2021.1872856>, Impact Factor (2020): 4.564.
5. Das, D., Das, A.K., Pratihari, D.K. and Roy, G.G. Prediction of residual stress in electron beam welding of stainless steel from process parameters and natural frequency of vibrations using machine-learning algorithms. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 235(11), 2021, pp.2008-2021. <https://doi.org/10.1177/0954406220950343>, Impact Factor (2020): 1.762
6. Das, D., Pratihari, D.K. and Roy, G.G. Establishing a Correlation Between Residual Stress and Natural Frequency of Vibration for Electron Beam Butt Weld of AISI 304 Stainless Steel. *Arabian Journal for Science and Engineering*, 45(7), 2020, pp.5769-5781. <https://doi.org/10.1007/s13369-020-04560-0>, Impact Factor (2020): 2.334.
7. Das, D., Pal, A.R., Das, A.K., Pratihari, D.K. and Roy, G.G. Nature-inspired optimization algorithm-tuned feed-forward and recurrent neural networks using CFD-based phenomenological model-generated data to model the EBW process. *Arabian Journal for Science and Engineering*, 45(4), 2020, pp.2779-2797. <https://doi.org/10.1007/s13369-019-04142-9>, Impact Factor (2020): 2.334.
8. Das, D., Pratihari, D.K. and Roy, G.G. Effects of space charge on weld geometry and cooling rate during electron beam welding of stainless steel. *Optik*, 206 (3), 2020, p.163722. <https://doi.org/10.1016/j.ijleo.2019.163722>, Impact Factor (2020): 2.443.
9. Das, D., Pratihari, D.K. and Roy, G.G. Cooling rate predictions and its correlation with grain characteristics during electron beam welding of stainless steel. *The International Journal of Advanced Manufacturing Technology*, 97(5-8), 2018, pp.2241-2254. <https://doi.org/10.1007/s00170-018-2095-6>, Impact Factor (2020): 3.226.
10. Das, D., Pratihari, D.K., Roy, G.G. and Pal, A.R. Phenomenological model-based study on electron beam welding process, and input-output modeling using neural networks trained by back-propagation algorithm, genetic algorithms, particle swarm optimization algorithm and bat algorithm. *Applied Intelligence*, 48(9), 2018, pp.2698-2718. <https://doi.org/10.1007/s10489-017-1101-2>, Impact Factor (2019): 5.086.
11. Pratihari, B., Das, D. and Pratihari, D.K. A Study to Establish Equivalence of Thermal and Mechanical Loads. *Arabian Journal for Science and Engineering*, 45(2), 2020, pp.631-639. <https://doi.org/10.1007/s13369-019-04116-x>, Impact Factor (2020): 2.334.
12. Dinda, SK., Das, D., Mohan, A., Srirangam, P., Roy, G. G. Effect of beam oscillation on electron beam butt welded dual-phase (DP600) steel to 5754 Aluminium alloy joints. *Metallurgical and Materials Transaction A*, 52(5), 2021, pp. 1647-1663. <https://doi.org/10.1007/s11661-021-06181-0>, Impact Factor (2020): 2.556.
13. Das, A.K., Das, D., Jaypuria, S., Pratihari, D.K. and Roy, G.G. Input–Output Modeling and Multi-objective Optimization of Weld Attributes in EBW. *Arabian Journal for Science and Engineering*, 46 (4), 2020, pp. 4087-4101. <https://doi.org/10.1007/s13369-020-05248-1>, Impact Factor (2020): 2.334.

(b) Conference proceedings:

1. Bal, K.S., Das, D., Singh, A.S., Dey, D., Majumdar, J.D., Choudhury, A.R. Experimental and finite element modeling of residual stress developed in laser-beam bead-on-plate welded Hastelloy C-276 sheet. In 2nd International Conference on Advancements in Automation, Robotics and Sensing (ICAARS), Coimbatore, India, 2018.
2. Das, D., Pratihari, D.K. and Roy, G.G. Comparison of Heat Source Models in FEM-based Analysis of Electron Beam Melting of Steel Plate. In 7th International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM-2017/681), IIT Kharagpur, India, 2017.
3. Das, D., Pratihari, D.K. and Roy, G.G. Electron beam melting of steel plates: temperature measurement using thermocouples and prediction through finite element analysis. In 28th International Conference on CAD/CAM, Robotics and Factories of the Future (pp. 579-588). Springer, New Delhi, India. https://doi.org/10.1007/978-81-322-2740-3_57, 2016.
4. Das, D., Nandi, D., & Basak, I. Initiation time for electrical discharge through liquid medium. In National conference on recent trends in manufacturing science and technology, RTMST-2013, NITTTR, Kolkata, India, pp. 143-157. 2013.

(c) Book-chapter:

1. Das, D., Jaypuria, S., Gupta, S., Kundu, A., Pratihari, D.K., and Roy, G.G. Role of numerical simulations in weld analysis. Chapter 12. In *Book: Handbook of Welding: Processes, Control and Simulation – HOW2020*. Nova Science Publishers, INC, 2021. [ISBN: 978-1-53619-685-6](https://doi.org/10.1007/978-1-53619-685-6)
2. Kundu, A., Jaypuria, S., Pratihari, D.K., Chakrabarti, D., Das, D. Electron Beam Welding: Current Trends and Future Scopes. Chapter 3. In *Book: Handbook of Welding: Processes, Control and Simulation – HOW2020*. Nova Science Publishers, INC, 2021. [ISBN: 978-1-53619-685-6](https://doi.org/10.1007/978-1-53619-685-6)

3. Das, A.K., Das, D., and Pratihari, D.K. [Multi-Objective Optimization and Cluster-Wise Regression Analysis to Establish Input–Output Relationships](#). In Book: Multi-Objective Optimization. Springer, Singapore, 2018. [ISBN: 978-981-13-1471-1](#)

Present Employment Details:

Position	:	Assistant Professor
Department	:	Mechanical Engineering
Collage	:	Mallabhum Institute of Technology (MIT) Bishnupur, Bankura – 722122, West Bengal, India
University	:	Maulana Abul Kalam Azad University of Technology (M.A.K.A.U.T) University, West Bengal, India
Affiliation	:	
Date of Joining	:	16/03/2021
Date of Leaving	:	Till Date
Experience	:	One Year Teaching
(Duration)	:	
Subjects Taught	:	1) Advanced Welding Technologies, 2) Material Handling

Journal(s) Reviewers:

Journal		Publisher
International Journal of Computer Integrated Manufacturing	:	Taylor and Francis
Neural Processing Letters	:	Springer
Journal of Intelligent & Fuzzy Systems	:	IOS Press

Awards/Fellowships:

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- Scholarship by the Ministry of Human Resource Development (MHRD), Government of India for Ph.D. program at the Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India
 - Scholarship by the Ministry of Human Resource Development (MHRD), Government of India for M.Tech program at the National Institute of Technology Durgapur-713209, West Bengal, India

Coursework Related Information:

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- Modern manufacturing processes
 - Casting, Welding, Forming.
 - Non-Conventional Machining Processes
 - Knowledge Based Systems in Engineering
 - Finite and boundary element methods in manufacturing

Other Significant Activities:

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- Successfully completed 5-day Faculty Development Programme (FDP) on Universal Human Values (UHV) by AICTE from 15-19 Nov, 2021.
 - Worked as Teaching Assistant for the NPTEL course on Fuzzy Logic and Neural Networks by Prof. D. K. Pratihari at IIT Kharagpur in 2019.
 - Attended Workshop on Solidification and Phase Transformation at Jadavpur University in 2016

References

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- Dr. Dilip Kumar Pratihari, Professor, Department of Mechanical Engineering, IIT Kharagpur, Kharagpur – 721302, West Bengal, India, **Email ID:** dkpra@mech.iitkgp.ac.in, **Ph:** (+91) 9932508105
 - Dr. Gour Gopal Roy, Professor, Department of Metallurgical and Materials Engineering, IIT Kharagpur, Kharagpur – 721302, West Bengal, India, **Email ID:** ggroy@metal.iitkgp.ac.in, **Ph:** (+91) 9434743069