

## Curriculum Vitae

1. Name: Dr. RAJ BALLAV
2. Department: Production and Industrial Engineering, NIT Jamshedpur
3. Present Designation: Associate Professor  
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4. Date of Joining in Institute: 25-02-1997
5. Date of Birth: 15th January 1966
6. Married status: Married
7. Educational Qualification

Exam passed	Board/University	Name of Institute	Year of passing	Class/division
Matriculation	B.S.E.B,Patna	R.H.S.Sindri	1980	1st
I.Sc	Ranchi University	Sindri collage sindri	1982	2nd
B.Tech	Ranchi University	B.I.T Sindri	1990	1st
M.Sc.Engg (Prod)	Vinova Bhawe Univ. Hazaribag	B.I.T Sindri	1999	1st
Ph.D	Ranchi University		2008	

8. Ph.D Guided: 02 Awarded  
: 00 Thesis submitted  
: 05 In progress
9. M.Tech Guided:15
10. Area of specialization. Reverse Engineering, Rapid prototyping, CAD/CAM, Production, Welding, Non-traditional Manufacturing.

### **List of Papers published in Journals**

1. Pralay Pal and **R Ballav** Object shape reconstruction through NURBS surface interpolation, International Journal of Production Research Vol45,No.2,287-307 2007.
2. Pralay Pal, **Raj Ballav**, Anjani kumar Processing Tecnique of Raw 3D point cloud data for accurate Reverse Engineering exercise CMTI Journal Vol 2 Issue-5 May2003,pp 11-16.
3. Pralay Pal, **Raj Ballav**, Anjani kumar Processing technique of point cloud data for accurate reverse engineering for e manufacture International conference on E-Manufacture, MANIT Bhopal, Nov 17-19 , 2002 published in conference proceeding , pp-528-533.
4. Pralay Pal, **Raj Ballav**, Anjani kumar Rapid part manufacture with low volume discrete object shape data: An agility perspective in distributed architecture ICAM 2002, Bangalore,15-17 December 2002 published in conference proceeding.

5. Pralay Pal, **Raj Ballav**, Anjani kumar Refinement of point cloud data: some computational heuristics for better reverse engineering exercise INCARF- 2003 August 2003 11-13 2003 IIT Delhi published in conference proceeding.
6. On processing technique of raw 3D point cloud data for accurate reverse engineering exercise 20 th AIMTDR conference , BIT Mesra, Ranchi 2003 published in conference proceeding

## List of Papers published in Journals (SCI & Scopus)

### SCI Journal

1. P. Pawar, **R. Ballav** and A. Kumar (2017), Machining Processes of Silicon Carbide: A Review, on Advanced Materials Science, (SCI Journal) (Thomson Reuters Impact Factor: 2.5), Vol. 51, pp. 62-76
2. Pravin Pawar, Amaresh Kumar, **Raj Ballav** (2020) “Grey Relational Analysis Optimization of Input Parameters for Electrochemical Discharge Drilling of Silicon Carbide by Gunmetal Tool Electrode”, Annales de Chimie – Science des Matériaux, Vol. 44, No. 4, pp. 239-249, doi: <https://doi.org/10.18280/acsm.440402>(Scopus, ESCI)

### Scopus Journal

1. Pravin Pawar, **Raj Ballav**, Amaresh Kumar, (2016), Finite Element Method Broach Tool Drilling Analysis Using Explicit Dynamics Ansys, International Journal of Modern Manufacturing Technologies, 8(2), 54-60.(Scopus)
2. Pawar Pravin, **Raj Ballav**, and Amaresh Kumar(2017). “Machining Processes of Sapphire: An Overview.” International Journal of Modern Manufacturing Technologies, Vol. 9, No. 1, 47-72 (Scopus).
3. Pravin Pawar, Amaresh Kumar, **Raj Ballav**, “Material Removal And Tool Wear Analysis By ECDM Drilling Of A Mosaic Ceramic Material”, International Journal of Modern Manufacturing Technologies, ISSN:2067-3604, Accepted (In press)(Scopus).
4. Sourabh Sinha, **Raj Ballav**, Amaresh kumar(2017). “Analysis of surface roughness in electric discharge machining of INCOLOY 800HT. U.P.B. Sci. Bull., Series D, Volume 79, No. 2, pp.107-114. (Scopus).
5. Pawar P.\*, Kumar A., **R. Ballav** (2019) Analysis of Machined Depth and Hole Diameter on Soda-lime Glass Using Electrochemical Discharge Machining Process, Journal of Engineering Sciences Volume 6, Issue 2 (2019)
6. Pravin Pawar, Amaresh Kumar, **Raj Ballav** 2019 Analysis of Machining for Silicon Carbide on Electrochemical Discharge Machining with Brass Tool International Journal of Modern Manufacturing Technologies ISSN 2067–3604, Vol. XI, No. 1
7. Pravin Pawar, Amaresh Kumar and **Raj Ballav** (2020) “Experimental Study on The Mrr, Machined Depth and Hole Diameter for Soda-Lime Glass by Electrochemical Discharge Machining Process with Copper Tool”, International Journal of Modern Manufacturing Technologies, Volume XII, No. 1/2020, 131-143. (ISSN: 2067-3604) (Scopus)
8. Pravin Pawar, Amaresh Kumar and **Raj Ballav** (2020) “Development Of 3d Models From 2d Drawings Of Electrochemical Discharge Machine”, Machine Design, Vol. 12 (2020), No.1 7-14. (ISSN: 1821-1259) (Non-Scopus, Non-paid)

9. Pravin Pawar, Amaresh Kumar and **Raj Ballav** (2019) “Parametric Analysis of Electrochemical Discharge Drilling on Soda-Lime Glass Material using Taguchi L27 Orthogonal Array Method”, *Strojnícky časopis - Journal of Mechanical Engineering*, Volume 69, No. 4, 115-132, (Scopus)
10. Pravin Pawar, Amaresh Kumar and **Raj Ballav** (2019) “Analysis of Machining for Silicon Carbide on Electrochemical Discharge Machining with Brass Tool”, *International Journal of Modern Manufacturing Technologies*, Vol. XI, No. 1, 86-94,
11. Sourabh Sinha, **Raj Ballav**, Amaresh Kumar (2017). Response Surface Methodology to Evaluate Material Removal Rate in Electric Discharge Machining of INCOLOY 800HT. *International Journal of Mechanical Engineering and Technology (IJMET)*, Volume 8(6), 299-304,

### Book chapter

1. Pawar, Pravin, **Raj Ballav**, and Amaresh Kumar. "FEM Analysis of Different Materials Based on Explicit Dynamics ANSYS in Electrochemical Discharge Machine." In *Simulations for Design and Manufacturing*, pp. 231-258. Springer, Singapore, January 2018,

### Scopus / Internationally renowned conferences

1. Sourabh Sinha, **Raj Ballav**, Amaresh Kumar (2017). Investigation of Material Removal Rate and Tool Wear Rate on Electrical Discharge Machining of Incoloy 800HT by using Response Surface Methodology, *Materials Today: Proceedings*, 4 (9), 10603–10606. <https://doi.org/10.1016/j.matpr.2017.06.427> (Scopus/Web of Science)
2. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2017), Micromachining of Borosilicate Glass: A State of Art Review, *Materials Today: Proceedings*, 4 (2017) 2813–2821, <https://doi.org/10.1016/j.matpr.2017.02.161> (Scopus/Web of Science)
3. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2016), “Finite Element Method Analysis of Electrochemical Discharge Machine Using Explicit Dynamics ANSYS”, 6th International & 27th All India Manufacturing Technology, Design and Research Conference (AIMTDR-2016), December 16-18, 2016 at College of Engineering., Pune, Maharashtra, INDIA. ISBN: 978-93-86256-27-0.
4. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2016), “Machining Processes of Pyrex Glass: A Technological Review”, 6th International & 27th All India Manufacturing Technology, Design and Research Conference (AIMTDR-2016), December 16-18, 2016 at College of Engineering, Pune, Maharashtra, India. ISBN: 978-93-86256-27-0.
5. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2016), “Micro Nano Machining Processes of Glass Ceramic Zerodur: A Short Communication”, 13th International Conference on Fiber Optics and Photonics, 4 to 8 December, 2016, IIT Kanpur, , OSA Technical Digest (online) (Optical Society of America, 2016), paper W3A.67, (Scopus)
6. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2015), “Revolutionary Developments in ECDM Process: An Overview”, *Materials Today: Proceedings* 2 pp 3188-3195. [10.1016/j.matpr.2015.07.113](https://doi.org/10.1016/j.matpr.2015.07.113) (Scopus/Web of Science)
7. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2015), “The effect of Magnetic Field Assisted electro discharge machining process: An overview”, *International Conference*

on Precision, Meso, Micro and Nano Engineering (COPEN-9), 10th -12th December At IIT Bombay, Powai, Mumbai.

8. Pravin Pawar, Sourabh Sinha, Amaresh Kumar, **Raj Ballav** (2014), “Review on research trends in Electrochemical Discharge Machining”, 4th National Conference on Recent Advancement in Manufacturing (RAM-2014). 26-28 (2014) at Department of Mechanical Engineering, S.V.N.I.T. Surat, Gujarat, pp 132-136 ISBN No. 978-93-5156-755-4.
9. Pravin Pawar, Sourabh Sinha, **Raj Ballav**, Amaresh Kumar (2014), “A review on Machining Process of Alumina and Alumina Composite Ceramics”, International Conference on Industrial, Mechanical and Production Engineering: Advancements and Current Trends (ICIMPCT), 27th to 29th Nov. (2014), Department of Mechanical Engineering, MANIT, Bhopal, M.P., ISBN No. 978-93-84935-03-0.
10. Pravin Pawar, **Raj Ballav**, Amaresh Kumar (2015), “Measurement Analysis in Electrochemical Discharge Machining (ECDM) Process”, 4th National Conference on Advances in Metrology (ADMET) 25th to 27th February 2015, CSIR-CMERI, Durgapur, India.
11. Kuldip Kumar Sahu, Deepak Kumar, **Raj Ballav** (2017 ) “Optimization of Process Parameters during Turning of AL-Si – fly ash Composites using Response Surface Methodology” International conference on Materials and Manufacturing (ICAMM 17) January 19-21, 2017 NIFT, ISBN:978-93-86256-36-2.
12. Kuldip Kumar Sahu and, **Raj Ballav** (2017), “Optimization of machining parameters of Aluminium based hybrid composites using Gray Relation Analysis”, Materials Today: Proceedings, ISSN: 2214-7853 (Scopus)
13. A. Jyoti swarup and **Raj Ballav** (2014) “Modeling and analysis of process parameters of Die sinking EDM on En 31 Tool steel”, 07th IRF international conference, 22nd June-2014, Bengaluru ISBN: 978-93-84209-29-2.
14. Mukesh Kumar, Ashish Das, **Raj Ballav**, Influence of interlayer on microstructure and mechanical properties of friction stir welded dissimilar joints: A review, Materials Today: Proceedings, Elsevier, Volume 26, Part 2, 2020, Pages 2123-2129.
15. Mukesh Kumar, Ashish Das, **Raj Ballav**, Influence of tool geometry on morphology and mechanical properties of friction stir welded dissimilar joints: A review, Materials Today: Proceedings, Elsevier, Volume 33, Part 8, 2020, Pages 4951-4955.