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| Name of Teaching Staff<br>Designation<br>Department<br><br>Date of Joining the Institution<br>Email ID<br><br>Office Contact | :<br>:<br>:<br><br>:<br>:<br><br>: | Dr. Rajendra S. Khavekar<br><br>Training and Placement Officer<br><br><br>9th February, 2000<br><br>rajendra.khavekar@djsce.ac.in<br><br>022-42335007<br>Mo No. 9892168524/8850324889 |  |
| Google Scholar Link | : | https://scholar.google.com/citations?user=tgDh-tEAAAAJ&hl=en | |
| Researchgate Link: | | https://www.researchgate.net/profile/Rajendra-Khavekar | |
| ORCID | | https://orcid.org/0000-0003-3800-3808 | |
| Publons Researcher ID | : | https://publons.com/researcher/AAB-5735-2022/ | |
| Qualifications with Class / Grade | : | 1. **Ph.D. (Mech. Engg.)**- June-2019, University of Mumbai (DJSCE Research Centre).<br>Thesis: A Comparative Analysis of Shainin DOE and Traditional DOE Tools for Deploying Six Sigma in select Indian Manufacturing Companies.<br><br>2. **M.Tech. (Foundry and Forge Tech.)** – C.G.P.A.: 8.99/10, National Institute of Foundry and Forge Technology (NIFFT), February 1999, Ranchi University.<br><br>3. **B.E. (Industrial Production Engg.)**- Ist class, 66.83%, September 1994, Karnatak University, Dharwad. | |
| Total Experience in Years | : | 22 Years<br><br>1. Training & Placement Officer from 8.7.2008 to till date.<br><br>2. Assistant Prof. in Production Engg; DJSCE from 1-1-2006 to 7-7-2008.<br><br>3. Lecturer (Sr. Scale) in Production Engg; DJSCE from 1.4.2005 to 31-12-2005.<br><br>4. Lecturer in Production Engg; DJSCE from 9.2.2000 to 31.3.2005.<br><br>**Industry:**<br>1. Trainee Executive, Amforge Industries Ltd.; Mumbai from 2nd April, 1999 to 8th February, 2000.<br><br>2. Service Engineer, Vishcom Engineers and Chemicals Engineering (P) Ltd; Pune from 1st December, 2004 to 30th November, 2006. | |

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| Papers Published in Journal:<br><br>International Journal | : | 1. Optimization of Process Parameters in the Case of a Corrugation Operation by Using Taguchi Method", International Journal of Mechanical and Production Engineering Research and Development, Trans Stellar Publications, Vol. 10, Special Issue: June 2020, pp: 31-38 (with Dr. Hari Vasudevan and Hardikkumar Patel).<br><br>2. "Productivity Improvement in Blow Molding Process through Energy Savings", Lecture Notes in Mechanical Engineering, Springer Singapore, ISSN: 2195-4356, ISSN: 2195-4364 (e), 2020, pp: 167-176 (with Dr. Hari Vasudevan and Nida Sayed).<br><br>3. "Improving the On-Time Delivery of Projects in a Complex Industrial Environment", Lecture Notes in Mechanical Engineering, Springer Singapore, ISSN: 2195-4356, ISSN: 2195- 4364 (e), 2020, pp: 231-238 (with Dr. Hari Vasudevan and Krishnan Kaushik).<br><br>4. "Investigating Red X Parameter for Short Shot-Type Defect in Plastic Injection Moulds Using Shainin's Design of Experiments", Lecture Notes in Mechanical Engineering, Springer Singapore, ISSN: 2195-4356, ISSN: 2195-4364 (e), 2020, pp: 533-542 (with Dr. Hari Vasudevan and Dharam Ranka).<br><br>5. "Evaluation of Piping Isometric Drawings Using Six Sigma Process", Lecture Notes in Mechanical Engineering, Springer Singapore, ISSN: 2195-4356, ISSN: 2195-4364 (e), 2020, pp: 815-823 (with Abrar Khulli, Prasad Shirodkar and Dr.Vijaya Kumar).<br><br>6. "Optimization of Investment Casting Process Parameters Deployed in Diamond Jewellery Firm by using Design of Experiment Tools", International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol. 8, 2019, Issue 08 (with Dr. VijayaKumar, Rushabh Bhavsar and Mit Goda).<br><br>7. "Optimization of Injection Moulding Process Parameters for Manufacturing Plastic Components (PBT) Using Taguchi Method (TM)", in "Materials Science Forum", ISSN: 1662- 9752, Vol. 969, PP 775-780, Trans Tech. Publications Ltd., Switzerland, 2019, (with Dr. Hari Vasudevan and Vimal Gosar).<br><br>8. "Optimization of Injection Molding Process Parameters using Response Surface Methodology", Lecture Notes in Mechanical Engineering, Published by Springer Singapore. DIO: 10.1007/978-981-13-2490-1.(2018) (with Dr. Hari Vasudevan and Vimal Gosar).<br><br>9. "Analyzing the need for a comparative study of Shainin DoE and Traditional DoE tools for deploying Six Sigma in Indian Manufacturing Companies", Materials Science and Engineering, IOP Publications, Vol.376, 2018, 012121, doi:10.1088/1757-899X/376/1/01212 (with Dr. Hari Vasudevan). |

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| | | 10. "Application of Shainin Methodology to Reduce Rejections in Spur Gear Manufacturing", ELSEVIER, Materials Today, Vol.5, issue 5, part 2, pp:12003-12008, 2017, (with Dr. Hari Vasudevan and Girish Deshpande).<br><br>11. "Design and Development of a Multi-Purpose Trolley" Informatics Journal, Vol. 9, 2017, Issue 1, (with Virag Timbadia and Dr. Vijayakumar).<br><br>12. "Application of Shainin DoE Tool to Explore Unknown Variables causing 'Ghost Noise' in 5th Gear Cycle of Transaxles during NVH Testing" in "Advances in Intelligent Systems Research", Vol. 137, pp: 271-276, Atlantis Press (Springer), AISR (ISSN 1951-6851), ISBN (online): 978-94-6252-305-0.,2017, (with Dr. Hari Vasudevan and Harshvardhan Desai).<br><br>13. "A Comparative Study of Taguchi Methodology and Shainin System DoE in the Optimization of Injection Moulding Process Parameters", Materials Science and Engineering, IOP Publication, Vol. 225, 2017, doi:10.1088/1757-899X/225/1/012183 (with Dr. Hari Vasudevan and Modi Bhavik).<br><br>14. "Review on Creativity Techniques for Product Development", Journal of Informatics, Vol. 8 (2016) Issue 4 (with Virag Timbadia).<br><br>15. "Suspecting Dominant Variable that causes Porosity Defect in a Cast Made up of Alumnium Alloy (Lm2) Using Shainin's DoE Approach" in the International Journal of Advances in Mechanical and Civil Engineering, Vol. 3, Issue 5, Oct 2016, ISSN: 2394- 2827, pp: 124 -130 (with Dr.Hari Vasudevan and Dharam Ranka). |
| Papers Presented in Conferences | | **National:**<br><br>1. "Hybrid Rocket" in 2013. National conference on Role of Engineers in Nation building (Mumbai: Viva Institute of Technology, Maharashtra, India, March-2013) (with Dr. K .N. Vijayakumar and Vatsal Sheth).<br><br>2. "Anti-Lock Braking Syatem-A review" in 2013. National Conference on Innovations in Mechanical Engineering (Lonavala: SIT, Lonavala, Maharashtra, India, April, 2013) (with Mehta Rujai, Sinha Sujit and Dr.K N Vijayakumar).<br><br>3. "Stealth Technology" in 2013. National Conference on Innovations in Mechanical Engineering (Lonavala: SIT, Lonavala, Maharashtra, India, April, 2013) (with Lokhandawala K, Joshi Rushabh and Dr. K. N. Vijayakumar).<br><br>4. "Advances in additive Manufacturing Technology-A review" in 2013. National Conference on Innovations in Mechanical Engineering (Lonavala: SIT, Lonavala, Maharashtra, India, April, 2013) (with Diptesh M., Mahajan Shambhavi and Dr.K. N. Vijayakumar).<br><br>5. "A Modified Approach in Precision Manufacturing by Abrasive Flow machining" in 2005, National Conference on Advances in Mechanical Engineering (Hyderabad: Vasavi College of Engineering, Hyderabad, Andra Pradesh, India, May 2005). (With Vasudevan Hari, Lakal Narendra and Bhosale Ajit).<br><br>6. "Achieving Competitive Excellence in Contract processing in a Manufacturing |

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| | | Firm", in 2004 National Conference on World Class Manufacturing (Wardha: B. D. College of Engineering, Sevagram, Wardha, Maharashtra, India, March, 2004), (With Vasudevan Hari and Lakal Narendra).<br><br>7. "Effect of Silicon on GGG-40 ductile Iron" in 1998, one day conference on recent trends in manufacturing of Ductile iron (Jamshedpur: IIF Chapter, India, Bihar).<br><br>**International:**<br><br>1. "Optimization of Injection Moulding Process Parameters using Taguchi DoE Methodology", International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm (ICIEIND-2018), organised by IIIE, Odisha Chapter, Bhubaneshwar, Sept; 27- 30, 2018. (with Dr. Hari Vasudevan and Bhavik Modi).<br><br>2. "Optimization of process in Electrical Discharge Machining of DIN-X36CrMo17 Steel using Grey Relational Analysis", in the proceedings of the 4th International Conference on Industrial Engineering (ICIE-2017) organized by SVNIT, Surat from 21st-23rd December, 2017 (Dr. Hari Vasudevan and Ajaykrishna C.).<br><br>3. "Shainin tool approach for quality monitoring in Injection Moulding", International Conference of Industrial Engineering (ICIE-2017) organized by SVNIT, Surat, Dec; 21-23, 2017. (with Dr. Hari Vasudevan and Harshita Salian)<br><br>4. "Improvement of Gear Quality in Machining Industry using Shainin System", in the International Conference on Materials, Manufacturing and Design 2016, organised by Dr. Babasaheb Ambedkar Technological University, Maharashtra on 20th & 21st December, 2016 (with Dr.Hari Vasudevan and Deshpande Girish).<br><br>5. "Optimization of Injection Moulding Process Parameters using Shainin System", in the International Conference on Materials, Manufacturing and Design 2016, organised by Dr. Babasaheb Ambedkar Technological University, Maharashtra on 20th & 21st December, 2016 (with Dr.Hari Vasudevan and Modi Bhavik).<br><br>6. "Optimization of Machinery Techniques" in 2014.International Conference and Workshop on Advances in Mechanical Engineering (ICWAME – 2014) (Mumbai: Thakur College of Engineering and Technology, Maharashtra, India, Feb.-March-2014) (with Dr. K. N. Vijayakumar and Sameer K.)<br><br>7. "Comparison of Quality Improvement Techniques – Shainin System vs. Six Sigma Technique' in 2014. International Conference on Eco-Friendly Technologies for Sustainable Growth (ICEFT-14). (Mumbai: M.H.Saboo Siddik College of Engineering, Maharashtra, India , Feb.-March-2014) (with Dr. K.N. Vijayakumar and Vimal ).<br><br>8. "Vibration analysis of an assembly converting it into a Mass Spring system" in 2006. International Conference on 'Advances in Materials processing and characterization (Chennai: Anna University, Tamil Nadu, India, August 2006), (with Hari Vasudevan, Narendra Lakal and Ajit Bhosle). |
| Area of Specialization | | Metal Forming, Casting, DoE, Manufacturing Processes and Materials |

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| PhD Guide ? Give field & University | : | **Field**:<br>**University**: | Mechanical Engineering<br><br>University of Mumbai |
| PhDs / Projects Guided | : | **PhDs :**<br>**Projects at Masters level:** | ----<br><br>Projects at Masters Level: 12 (Mechanical Engineering) |
| Books Published / IPRs / Patents | : | | 1. "Cyber security challenges in digital manufacturing and possible ways of mitigation" accepted for publication as a book chapter in "Cyber Security Threats and Challenges facing Human Life", to be published by CRC Press, Taylor and Francis Group, HB 9781032111285.<br><br>2. "Application of Six Sigma to reduce Fresh Water Consumption: DMAIC a case study", Customer Delight, Lambert Academic Publishing, ISBN: 978-613-9-47329-8 (with Gopal Buchade and S.N.Teli). |
| Professional Memberships | : | | Life Member, ISTE<br>Fellow Member, ISME<br>Member, ASM |
| Grants fetched | : | Minor Research Grant (University of Mumbai) | Research grant received under the "Minor Research Grant" scheme of the University of Mumbai:<br><br>1. Research grant of Rs. 30,000/- for the work titled "Design and Development of Multi-Purpose Trolley" for the A.Y. 2016-17. |
| Interaction with Professional Institutions | : | **Guest Lectures:**<br><br>**Other Achievements and Responsibilities:** | 1. Co-Convener of International conference on Intelligent Manufacturing and Automation (ICIMA) in 2018, 2020 and 2022.<br><br>Received the best Research Paper Award during the presentation (ICMPE) in Pune on 7th of August 2016.<br><br>Hon. Secretary, Indian Society of Manufacturing Engineers (ISME).<br><br>Member, student outreach committee, ASM India Chapter. |
| Subjects Taught | | **UG Level:** Engg. Drawing, Materials and Metallurgy, OR, MFT, MFTA, EFAC, RM SOM,<br><br>**PG Level:** RM, Advanced Materials | |

<table>
<tr><td>Projects Guided</td><td>:</td><td colspan="2"><u>UG Level:</u> more than 80<br>Some of the UG Projects Guided:<br>1. Improving Product Quality using Statistical Process control, CAPA & Non-Conformity Analysis of BMR.<br>2. Productivity Improvement and Cycle Time Reduction in Photometry Used for Biochemistry.<br>3. Improvement of Deadline Management System at I.EVO using Lean Manufacturing Principles.<br>4. Improvement of Productivity by Reduction of Cycle Time in Photometer Lamp Assembly.<br>5. Implementation of Industrial Waste Management Practices at Anandji Haridas & Company Pvt. Ltd.<br><u>PG Level:</u> 12<br>Some of the PG Projects Guided:<br>1. Optimization of Process Parameters of Corrugation Operation by using Taguchi Method.<br>2. Productivity Improvements in Blow Moulding Process through Energy Savings.<br>3. Evaluating Quality Aspects of Injection Moulding using Shainin Tool.</td></tr>
<tr><td>Recommended Students for Higher Education</td><td></td><td><u>Name of the Student</u><br>More than 20 students for P.G.</td><td><u>University/Industry</u><br>Various Universities across USA, Canada, Germany and Singapore</td></tr>
<tr><td>Institute/Department Responsibility handled:</td><td></td><td colspan="2">1. Anti-Ragging Committee<br>2. Unfair Means Committee (Autonomy)<br>3. IQAC member<br>4. Academic Audit Committee<br>5. Invitee –Academic Council<br>6. National Innovation and Start up Policy-Committee member<br>7. Alumni cell-Committee member</td></tr>
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| Courses completed online (Cousera) : | | 1. Introduction to Data Analytics for Business.<br>2. Finance for Everyone: Decisions.<br>3. Excel Skills for Business: Essentials.<br>4. Six Sigma and the Organization (Advanced).<br>5. Learning to Teach Online.<br>6. Assessment in Higher Education: Professional Development for Teachers.<br>7. 3D Printing Applications.<br>8. Ferrous Technology I<br>9. Advanced Manufacturing Process Analysis.<br>10. Digital Manufacturing and Design. |
| FDPs attended online : | | 1. One week FDP on "Exploring the Dimensions of Innovation, Incubation and Emerging Technologies to Embrace Post Covid Changes", conducted by Finolex Academy of Management and Technology, Ratnagiri .<br>2. One week FDP on "Inculcating Universal Human Values in Technical Education", conducted by AICTE.<br>3. One week FDP on "A Journey into the Manufacturing Sector in India in view of Industry 4.0 practices and COVID-19", conducted by DJSCE.<br>4. One week FDP on "SCILAB" conducted by DJSCE.<br>5. One week FDP on "3D Printing and Design", conducted by IIIT, Kancheepuram.<br>6. One week FDP on "Advanced Materials and Additive Manufacturing Systems for Industry 4.0" , conducted by RIT, Islampur.<br>7. One week FDP on "Electric Vehicles-The Future of Mobility" conducted by RIT, Islampur. |