# STANDARD TEMPLATE OF FACULTY PROFILE FOR UPLOADING OF UNIVERSITY WEBSITE

<table>
<tr><td>Title</td><td>Dr.</td><td>First Name</td><td>Pushpendra Singh</td><td>Last Name</td><td>Bharti</td><td rowspan="4">  </td></tr>
<tr><td colspan="2">Designation</td><td colspan="4">Professor</td></tr>
<tr><td colspan="2">School /Dept. Name</td><td colspan="4">University School of Information, Communication and Technology</td></tr>
<tr><td colspan="2">Address:</td><td colspan="4">Room no. 301, E-Block,<br>G.G.S.Indraprastha University, Sec 16-C, Dwarka, New Delhi-110078</td></tr>
<tr><td colspan="2" rowspan="3">sPhone No.</td><td>Office</td><td colspan="4">011-25302710</td></tr>
<tr><td>Residence</td><td colspan="4"></td></tr>
<tr><td>Mobile</td><td colspan="4"></td></tr>
<tr><td colspan="2">Email</td><td colspan="3">1. psbharti@ipu.ac.in</td><td colspan="2">2.</td></tr>
<tr><td colspan="2">Web Page (if any)</td><td colspan="5"></td></tr>
<tr><td colspan="2">Subjects Taught</td><td colspan="5">• Robotics Engineering<br>• Mobile Robots<br>• Computer Integrated Manufacturing<br>• Workshop Technology<br>• Engineering Mechanics<br>• Engineering Graphics</td></tr>
<tr><td colspan="2">Areas of Interest/ Specialization</td><td colspan="5">• Non-conventional manufacturing<br>• Robotics and Automation Engineering<br>• 3D printing</td></tr>
<tr><td colspan="2" rowspan="4">Experience (in years)</td><td>Total</td><td colspan="4">22 years</td></tr>
<tr><td>Industry</td><td colspan="4">1 year</td></tr>
<tr><td>Teaching</td><td colspan="4">21 years</td></tr>
<tr><td>Research</td><td colspan="4">21 years</td></tr>
<tr><td colspan="2" rowspan="4">Educational Qualifications</td><td>UG</td><td colspan="4">B.E. (Mechanical Engineering)</td></tr>
<tr><td>PG</td><td colspan="4">M.E. (Production Engineering)</td></tr>
<tr><td>Doctorate</td><td colspan="4">Ph.D. (Mechanical Engineering)</td></tr>
<tr><td>Any other – Diploma in IPR</td><td colspan="4">---------</td></tr>
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|---|---|
| Research Publications in Journals (Last 5 years) | 1. Manohar Singh, Pushpendra S. Bharti, "Grey relation analysis based optimization of process parameters for efficient performance of fused deposition modelling based 3D printer", *Journal of Engineering Research*, 2022 (http://doi.org/10.36909/JER.ICMET.17159) (SCIE/Scopus)<br>2. Narender Singh, Pushpendra S. Bharti, " Multi-Objective parametric optimization during micro-EDM drilling of Ti-6Al-4 V using teaching learning Based optimization algorithm", *Materials Today: Proceedings,* 2022 (https://doi.org/10.1016/j.matpr.2022.03.257) (Scopus)<br>3. Narender Singh, Pushpendra S. Bharti, "Experimental investigations and parametric optimization during micro-EDM drilling of Ti-5.6Al-3.6V using ABC algorithm", *Journal of Engineering Research*, 2022 (http://doi.org/10.36909/jer.ICMET.17201) (SCIE/Scopus)<br>4. Imran Siraj and Pushpendra S. Bharti, " Embedding Quality in Extrusion-Based Additive Manufacturing Technologies", *Journal of Materials Engineering and Performance,* pp. 1-18, Feb. 2022 (https://doi.org/10.1007/s11665-022-06582-1) (Springer) (SCIE/Scopus)<br>5. Divya Agarwal, Pushpendra S. Bharti, " Comparison of Nature-Inspired Approaches for Path Planning Problem of Mobile Robots in MATLAB", *Advances in Mechanical and Materials Technology*, pp. 141-149, Jan. 2022 (https://doi.org/10.1007/978-981-16-2794-1_12) (Springer)<br>6. Divya Agarwal, Pushpendra S. Bharti, " Evaluation of SFLA and TLBO Algorithm for Path Planning of Mobile Robots in MATLAB", *Advances in Mechanical and Materials Technology*, pp. 151-160, Jan. 2022 (https://doi.org/10.1007/978-981-16-2794-1_13) (Springer)<br>7. Imran Siraj and Pushpendra S. Bharti, "Optimization of Process Parameters by Application of Adaptive Neuro-Fuzzy Inference System (ANFIS) Model of FFF Process", *Advances in Energy Technology,* pp. 249-264, 2022 (https://doi.org/10.1007/978-981-16-1476-7_24) (Springer)<br>8. Imran Siraj and Pushpendra S. Bharti, "3D printing process: A review of recent reaserach", *Science Progress and Research,* Vol. 1, Issue 3, pp. 127-137, 2022 (DOI: https://doi.org/10.52152/spr/2021.125)<br>9. Imran Siraj and Pushpendra S. Bharti, " Quality Loss Function Deployment in Fused Deposition Modelling", *Operations Management and Data Analytics Modelling,* 2021 (https://doi.org/10.1201/9781003181644) (CRC Press)<br>10. Divya Agarwal, Pushpendra S. Bharti, " Implementing modified swarm intelligence algorithmbased on Slime moulds for path planning and obstacle avoidance problem in mobile robots", *Applied Soft Computing*, Volume 107, pp. 1-15, Mar. 2021 (https://doi.org/10.1016/j.asoc.2021.107372) (Elsevier) (SCIE/Scopus)<br>11. Manohar Singh and Pushpendra S. Bharti, "Parametric influence of process parameters on the wear rate of 3D printed Polylectic Acid Specimens", *Indian Journal of Pure and Applied Physics*, Vol. 59, pp. 244-251, Mar. 2021 (http://nopr.niscair.res.in/handle/123456789/56505) (SCI/Scopus)<br>12. Himanshu Payal, Pushpendra S. Bharti, Sachin Maheshwari, Divya Agarwal, "Machining characteristics and parametric optimization of Inconel 825 during electric discharge machining," *Technical Gazette(Tehničkivjesnik),* vol. 27, pp. 761-772, Jun. 2020. (SCIE/Scopus)<br>13. Pushpendra S. Bharti, "Two-step optimization of electric discharge machining using neural network-based approach and TOPSIS," *Journal of Interdisciplinary Mathematics,* vol. 23, pp. 81-96, Jan. 2020. (Taylor & Francis) (ESCI/Scopus) |

14. Imran Siraj and Pushpendra S. Bharti, "Reliability analysis of a 3D Printing process," *Procedia Computer Science,* vol. 173, pp. 1915-200, Jan. 2020. (Elsevier) (Scopus)
15. Divya Agarwal and Pushpendra S. Bharti, "Nature inspired evolutionary approaches for robot navigation: Survey," *Journal of Information and Optimization Sciences,* vol. 41, pp. 421-436, Feb. 2020. (Taylor & Francis) (ESCI/Scopus)
16. Imran Siraj and Pushpendra S. Bharti, "Process capability analysis of a 3D printing process," *Journal of Interdisciplinary Mathematics,* vol. 23, pp. 175-189, Jan. 2020. (Taylor & Francis) (ESCI/Scopus)
17. Piyush Pant and Pushpendra S. Bharti, "Electrical Discharge Machining (EDM) of nickel-based nimonic alloys: A review," *Materials Today: Proceedings,* vol. 25, pp. 765-772, Jan. 2020. (Elsevier) (Scopus)
18. Narendra Singh and Pushpendra S. Bharti, "A review on micro electric discharge machining of titanium alloys," *Materials Today: Proceedings,* vol. 25, pp. 742-750, Jan. 2020. (Elsevier) (Scopus)
19. Pushpendra S. Bharti, "Process modelling of electric discharge machining by back propagation and radial basis function neural network," *Journal of Information and Optimization Sciences,* vol. 40, pp. 263-278, Feb. 2019. (Taylor & Francis) (ESCI/Scopus)
20. Divya Agarwal and Pushpendra S. Bharti, "Computation of cause and effect relationship for acceptance of autonomous mobile robots in industries," *Journal of Statistics and Management Systems,* vol. 22, pp. 237-256, Feb. 2019. (Taylor & Francis) (ESCI/Scopus)
21. Himanshu Payal, Sachin Maheshwari and Pushpendra S. Bharti, "Parametric optimization of EDM process for Inconel 825 using GRA and PCA approach," *Journal of Information and Optimization Sciences,* vol. 40, pp. 291-307, Feb. 2019. (Taylor & Francis) (ESCI/Scopus)
22. Himanshu Payal, Sachin Maheshwari, Pushpendra S. Bharti and Satish KumarSharma, "Multi-objective optimisation of electrical discharge machining for Inconel 825 using Taguchi-fuzzy approach," *International Journal of Information Technology,* vol. 11, pp. 97-105, Mar. 2019. (Springer) (Scopus)
23. Divya Agarwal and Pushpendra S. Bharti, "A Review on Comparative Analysis of Path Planning and Collision Avoidance Algorithms," *International Journal of Mechanical and Mechatronics Engineering,* vol. 12, pp. 608-624.
24. Divya Agarwal and Pushpendra S. Bharti, "A case study on AGV's alternatives selection problem," *International Journal of Information Technology,* pp. 1-13, Jul. 2018. (Springer) (Scopus)
25. Himanshu Payal, Sachin Maheshwari and Pushpendra S. Bharti, "Process modeling of electric discharge machining of Inconel 825 using artificial neural network," *International Journal of Mechanical and Mechatronics Engineering,* vol. 11, pp. 562-566, Feb. 2017.
26. Divya Agarwal, Pushpendra S. Bharti and A.K.S. Singholi, "Implementing Exoskeleton to Re-Enable the Disabled: A Review," *Global Journal of Enterprise Information System,*vol. 9, pp. 88-99, Jun. 2017.
27. Divya Agarwal, Pushpendra S. Bharti and A.K.S. Singholi, "Study of facility layout planning algorithms and approaches," *Global Journal of Enterprise Information System,*vol. 9, pp. 81-95, Jul. 2017.
28. Pushpendra S. Bharti, S. Maheshwari and C. Sharma, "Multi-objective optimization of electric-discharge machining process using controlled elitist NSGA-II," *Journal of Mechanical Science and Technology,* vol. 26, pp. 1875-1883, Jun. 2012. (Springer) (SCIE/Scopus)

<table>
<tr><td></td><td colspan="4">29. Pushpendra S. Bharti, S. Maheshwari and C. Sharma, “A comparative study of Artificial Neural Network training algorithms for modeling of Electric Discharge Machining process,” Journal of Mechanical Engineering (Strojnícky Casopis), vol. 61, pp. 323-340, Oct. 2010.(Slovak Academy of Sciences) (SCIE/Scopus)<br>30. Pushpendra S. Bharti, S. Maheshwari and C. Sharma, “Experimental investigation of Inconel 718 during die-sinking electric discharge machining,” International Journal of Engineering,Science and Technology, vol. 2, pp. 6464-6473, Nov. 2010.</td></tr>
<tr><td>Papers Published in Conference Proceedings(last 5 years)</td><td colspan="4">1. DivyaAgarwal and Pushpendra S. Bharti, “MATLAB Simulation of path planning and obstacle avoidance problem in mobile robots using SA, PSO, and FA,”IEEE, International Conference for Innovation in Technology, vol. XXX, pp. YY-ZZ, 2020. (Accepted and Under Publication).<br>2. Pushpendra S. Bharti, S. Maheshwari and M. K. Satyarthi, “Black Layer Characterization in Electric Discharge Machining of Inconel 718,” Vth International Symposium on Fusion of Science & Technology, New Delhi, India, January 18-22, 2016, pp. 214-217.</td></tr>
<tr><td>Books Authored/ BookVolume Chapters</td><td colspan="4">1. Divya Agarwal, Pushpendra S. Bharti, " Comparison of Nature-Inspired Approaches for Path Planning Problem of Mobile Robots in MATLAB", Advances in Mechanical and Materials Technology, pp. 141-149, Jan. 2022 (https://doi.org/10.1007/978-981-16-2794-1_12) (Springer)<br>2. Imran Siraj and Pushpendra S. Bharti, "Optimization of Process Parameters by Application of Adaptive Neuro-Fuzzy Inference System (ANFIS) Model of FFF Process", Advances in Energy Technology, pp. 249-264, 2022 (https://doi.org/10.1007/978-981-16-1476-7_24) (Springer)<br>3. Imran Siraj and Pushpendra S. Bharti, " Quality Loss Function Deployment in Fused Deposition Modelling", Operations Management and Data Analytics Modelling, 2021 (https://doi.org/10.1201/9781003181644) (CRC Press)</td></tr>
<tr><td rowspan="3">No. of Conferences</td><td rowspan="2">National</td><td colspan="2">Attended</td><td>Organized</td></tr>
<tr><td colspan="2">-</td><td>-</td></tr>
<tr><td>International</td><td colspan="2">3</td><td>-</td></tr>
<tr><td rowspan="3">Research Guidance</td><td rowspan="2">Awarded</td><td>PG</td><td>M. Phil</td><td>Doctorate</td></tr>
<tr><td>9</td><td></td><td>2</td></tr>
<tr><td>Undergoing</td><td>3</td><td></td><td>5</td></tr>
<tr><td>Research Projects</td><td>Completed</td><td colspan="3">1. Design and development of IoT based Autonomous Mobile Robot for autonomous navigation and control, Grant under FRGS, 2016-17, 2 lacs<br>2. Experimental investigation and parametric optimization of 3D Printing process, Grant under FRGS, 2018-19, 1.95 lac<br>3. Parametric optimization and experimental verification of 3D printer for enhanced mechanical properties, Grant under FRGS, 2020-21, 1.7 lac</td></tr>
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| | Undergoing | - |
| Awards & Distinctions | Silver Medalist at M.E. (from University of Allahabad) | |
| Administrative Assignments Handled | 1. Deputy Registrar (Examination): July 2012- June 2019<br>2. Coordinator: M.Tech.(Robotics and Automation): Since 2015<br>3. Coordinator: B.Voc.: 2015-2020<br>4. In-charge -Robotics Lab: Since 2018 | |
| Association with Professional Bodies | --- | |
| Any other Achievements | Received best paper award at International Conference at Zurich, Switzerland. | |