
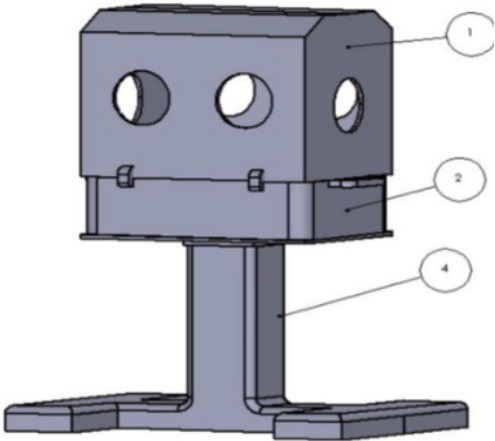

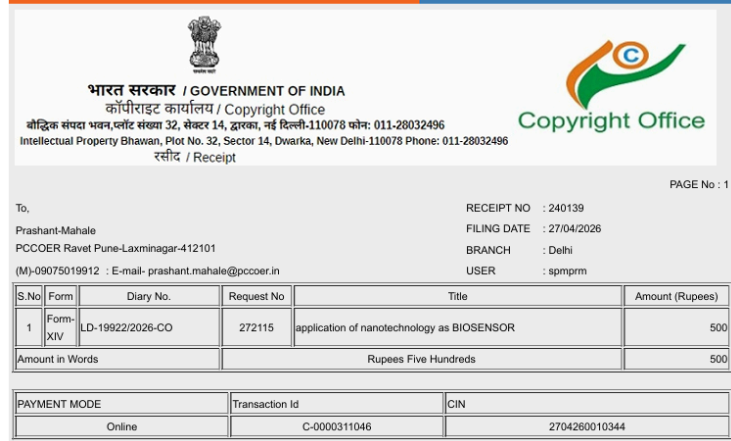
	<b>Pimpri Chinchwad Education Trust's</b> <b>Pimpri Chinchwad College of Engineering &amp; Research Ravet, Pune</b> An Autonomous Institute   NBA Accredited (4 UG Programs)   NAAC A++ Accredited   ISO 21001:2018 Certified <b>IQAC PCCOER</b>	
<b>AY: 2025-26</b>	<b>Staff Achievements</b>	Sem: I & II


## Department of Mechanical Engineering

### Academic Year 2025-26

Sr.	Achievement	Information	Photo
1	SRPG,ISHRAE Grant progressed in the second stage	Contributed to the development of a <i>Next Gen Neonatal Incubator with Integrated PCM and IoT Monitoring</i> under the SRPG grant. The project integrates PCM-based thermal regulation and IoT-enabled monitoring systems for advanced neonatal care and has been shortlisted for the second stage of ISHRAE .”	<p><b>BABY INCUBATOR</b></p> 


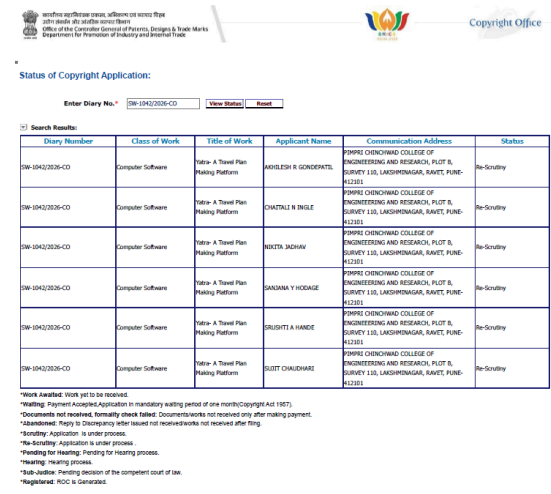
2	<p><b>MAXIMUM NUMBER OF PATENTS FILED (Total 65 Patents) IN A SINGLE DAY BY AN INDIVIDUAL</b></p>	<p><b>The new record was registered on 25th June 2025 in the book of “World Records India.”</b></p> <p>On the occasion of 65th Maharashtra Day in 2025, <b>Dr. Rahul Krishnaji Bawane</b>, filed a total of 65 patent applications in a single day through the online portal of the Indian Patent and Trademarks Office, Mumbai.</p>	 <p>The image shows a certificate from World Records India. At the top is the logo of World Records India, which features a globe with a star and the text 'WORLD RECORDS INDIA'. Below the logo, the word 'Certificate' is written in a large, stylized font. Underneath, the title 'MAXIMUM NUMBER OF PATENTS FILED IN A SINGLE DAY BY AN INDIVIDUAL' is written in blue, bold, underlined text. The main body of the certificate contains the following text: 'On the occasion of 65th Maharashtra Day in 2025, Dr. Rahul Krishnaji Bawane, Assistant Professor, Department of Mechanical Engineering, Pimpri Chinchwad College of Engineering and Research, Ravet, Pune, Maharashtra, filed a total of 65 patent applications in a single day through the online portal of the Indian Patent and Trademarks Office, Mumbai. He successfully set a new record on May 1, 2025, at Pune, Maharashtra, India.' At the bottom left, there is a QR code and the text 'WRI : 9971 - 2025 Date : 25th June, 2025'. At the bottom center, it says 'In Association with' followed by the logo of the Guinness World Records. At the bottom right, there is a signature and the text 'Pavan Solanki Chief Editor - World Records India'. At the very bottom, there is a small disclaimer: 'THIS CERTIFICATE MUST NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION OF WORLD RECORDS INDIA'.</p>
---	---	--	--

3	<b>THREE COPYRIGHT APPLIED</b>	Mr. Prashant Mahale applied for three copy right of the work he completed for presentation of Applications of nano particles in various fields in Poster format	 <p>The receipt is from the Copyright Office, Government of India. It details a request for copyright registration for an application of nanotechnology as a biosensor. The amount paid is 500 Rupees. The receipt includes the following information:</p> <p><b>भारत सरकार / GOVERNMENT OF INDIA</b>  <b>कॉपीराइट कार्यालय / Copyright Office</b>  <b>बौद्धिक संपदा भवन, प्लॉट संख्या 32, सेक्टर 14, द्वारका, नई दिल्ली-110078 फोन: 011-28032496</b>  <b>Intellectual Property Bhawan, Plot No. 32, Sector 14, Dwarka, New Delhi-110078 Phone: 011-28032496</b>  <b>रसीद / Receipt</b></p> <p>RECEIPT NO : 240139  FILING DATE : 27/04/2026  BRANCH : Delhi  USER : spmprm</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Form</th> <th>Diary No.</th> <th>Request No</th> <th>Title</th> <th>Amount (Rupees)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Form-XIV</td> <td>LD-19922/2026-CO</td> <td>272115</td> <td>application of nanotechnology as BIOSENSOR</td> <td>500</td> </tr> <tr> <td colspan="4">Amount in Words</td> <td>Rupees Five Hundreds</td> <td>500</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>PAYMENT MODE</th> <th>Transaction Id</th> <th>CIN</th> </tr> </thead> <tbody> <tr> <td>Online</td> <td>C-0000311046</td> <td>2704260010344</td> </tr> </tbody> </table>	S.No	Form	Diary No.	Request No	Title	Amount (Rupees)	1	Form-XIV	LD-19922/2026-CO	272115	application of nanotechnology as BIOSENSOR	500	Amount in Words				Rupees Five Hundreds	500	PAYMENT MODE	Transaction Id	CIN	Online	C-0000311046	2704260010344
S.No	Form	Diary No.	Request No	Title	Amount (Rupees)																						
1	Form-XIV	LD-19922/2026-CO	272115	application of nanotechnology as BIOSENSOR	500																						
Amount in Words				Rupees Five Hundreds	500																						
PAYMENT MODE	Transaction Id	CIN																									
Online	C-0000311046	2704260010344																									

4	<p><b>Patent Granted Dr. Rahul K. Bawane: Solar Operated Wall Mount Water Evaporative (desert) Air-Cooler</b></p>	<p>Patent Application No. 202221024129, Filed Date: 25-04-2022, Patent Published Date: 27-10-2023, Patent Grant Date: 18-03-2026</p>		 <p>The image shows a patent certificate from the Government of India, Intellectual Property Office. It certifies that a patent has been granted to Dr. Rahul Krishnaji Bawane and Swapnil Borude for their invention of a solar-operated wall mount water evaporative (desert) air-cooler. The certificate includes the patent number 202221024129, the date of filing (25/04/2022), and the date of grant (18/03/2026). It also lists the inventors' names and addresses. The certificate is signed by the Controller of Patents and features the Indian national emblem and the Intellectual Property Office logo.</p>
---	---	--	--	--

5	Q1 Paper (SCOPUS & SCIE Indexed)	Mr. Sujit Chaudhari published one research paper in a Q1, SCIE-indexed (non-open access) journal, Journal of Alloys and Compounds, titled “Effect of Solution Annealing on the Microstructure, Mechanical Properties and Residual Stresses of Selective Laser Melted Inconel 718.”	 <p>The image shows the front page of a research article in the Journal of Alloys and Compounds. The article title is "Effect of solution annealing on the microstructure, mechanical properties &amp; residual stresses of selective laser melted Inconel 718". The authors listed are Sujit B. Chaudhari, Vishnu D. Wakchaure, Prashant N. Nagare, and Suraj B. Kadhane. The article includes an abstract, keywords, and an introduction section. The abstract discusses the effect of solution annealing parameters on microstructure, tensile response, and residual stresses in SLM Inconel 718. The introduction provides background on Additive Manufacturing (AM) and Selective Laser Melting (SLM).</p>
---	----------------------------------	--	---

6	Q3 Paper (SCOPUS Indexed)	Mr Sujit Chaudhari published one research paper in a Q3 Scopus-indexed journal, International Journal of Advanced Technology and Engineering Exploration, titled “Effect of SLM Process Parameters on Microstructure and Mechanical Properties of AlSi10Mg Alloy: A PCA Approach.”	<p style="text-align: right;"><i>International Journal of Advanced Technology and Engineering Exploration, Vol. 13(12)33</i>  ISSN (Print): 2394-5443 ISSN (Online): 2394-7454  <a href="http://dx.doi.org/10.19101/IJATEE.2025.131220110">http://dx.doi.org/10.19101/IJATEE.2025.131220110</a></p> <p style="text-align: center;"><b>Research Article</b></p> <p><b>Effect of SLM process parameters on microstructure and mechanical properties of AlSi10Mg alloy: a PCA approach</b></p> <p>Ravindra E. Gite<sup>1</sup>, Vishnu D. Wakchaure<sup>1</sup>, Prashant N. Nagare<sup>1</sup>, Sujit B. Chaudhari<sup>2</sup> and Suraj B. Kadhane<sup>3</sup>  Department of Mechanical Engineering, Amrutvahini College of Engineering, Sangamner, Ghulewadi, Maharashtra, India<sup>1</sup>  Department of Mechanical Engineering, Pimpri Chinchwad College of Engineering and Research, Ravet, Pune, Maharashtra, India<sup>2</sup>  Department of Mechanical Engineering, Birla Institute of Technology and Science, Pilani, Rajasthan, India<sup>3</sup></p> <p>Received: 23-January-2025; Revised: 23-February-2025; Accepted: 24-February-2025  ©2025 Ravindra E. Gite et al. This is an open access article distributed under the Creative Commons Attribution (CC BY) License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.</p> <p><b>Abstract</b>  AlSi10Mg alloy is recognized for its excellent properties, including low density, superior corrosion resistance, good mechanical strength, high thermal conductivity, and strong compatibility with additive manufacturing (AM). These attributes make it a suitable and versatile material for applications in the automotive and aerospace industries. The optimal combination and influence of process parameters such as laser power, scan speed, hatch spacing, and border laser power significantly affect structural properties, including ultimate tensile strength (UTS), yield strength, scratch resistance, density, ductility, and surface finish. Experiments were conducted to investigate the effects of these parameters on the microstructure and structural properties of the printed samples. The laser power ranged from 150 W to 200 W, scan speed varied from 1800 mm/s to 2200 mm/s, hatch spacing ranged from 60 µm to 100 µm, and border laser power was varied between 325 W and 375 W. In this study, principal component analysis (PCA) was employed to determine the optimal printing process parameters, identify the most influential factors, and evaluate their impact on the quality of fabricated AlSi10Mg components. The microstructure and structural properties of the as-built (inversus) samples were examined. The findings indicate that laser power and scan speed together account for 73.34% of the total variation and play a fundamental role in enhancing product quality. The results also confirm that PCA is an effective tool for optimizing process parameters.</p> <p><b>Keywords</b>  AlSi10Mg alloy, Additive manufacturing, Laser process parameters, Principal component analysis (PCA), Microstructure, Mechanical properties.</p> <p><b>1. Introduction</b>  Additive manufacturing (AM) has emerged as a transformative technology in the field of advanced manufacturing, enabling the production of intricate geometries, lightweight structures, and high-performance components with minimal material wastage. Among various AM methods, selective laser melting (SLM) is widely adopted for fabricating metal parts, particularly aluminum alloys such as AlSi10Mg. These alloys offer an excellent combination of low density, high thermal conductivity, corrosion resistance, and mechanical strength, making them highly suitable for aerospace, automotive, and structural applications.</p> <p>SLM enables the layer-by-layer fabrication of AlSi10Mg components directly from computer-aided design models using a high-powered laser. However, the quality and performance of the final part are highly sensitive to process parameters such as laser power, scan speed, hatch spacing, and layer thickness [1].</p> <p>Recent advancements have focused on optimizing these parameters using statistical and data-driven techniques like the Taguchi method, analysis of variance (ANOVA) and response surface methodology (RSM) to improve density, reduce surface roughness and enhance mechanical properties [2]. However, despite these efforts, several critical challenges persist in the SLM fabrication of</p> <p style="text-align: right;">*Author for correspondence 160</p>
---	---------------------------	--	---

7	Best Presentation Award	Mr. Sujit Chaudhari received the Best Presentation Award at the International Conference on Sustainable Mechanical Engineering and Design held at PCCOER, Pune.	 <p>Certificate of Achievement This certificate is awarded to <b>Sujit Chaudhari</b> From Pimpri Chinchwad College of Engineering &amp; Research, Ravet for securing Best Presentation Award for paper title "Creep-Fatigue Behaviour of Additively Manufactured Inconel 718: Mechanisms and Challenges" at International Conference on Sustainable Mechanical Engineering and Design (ICSMED 2025) Held at Pimpri Chinchwad College of Engineering &amp; Research, Ravet, Pune From 12 to 13 Sept 2025.</p> <p>Dr. Rupali Patil Co-ordinator Dr. Ramesh Rathod Co-ordinator Dr. G. D. Siraskar H.O.D Dr. H. U. Tiwari Principal</p>																																										
8	13 copyrights filed	Mr. Sujit Chaudhari successfully filed 13 copyrights under DTIL (Design Thinking and Innovation Lab) student projects.	 <p>Copyright Office Status of Copyright Application: Enter Diary No. DW-1042/2026-CO [View Status] [Reset]</p> <p>Search Results:</p> <table border="1"> <thead> <tr> <th>Diary Number</th> <th>Class of Work</th> <th>Title of Work</th> <th>Applicant Name</th> <th>Communication Address</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>AKHILESH R GONDWAL</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>CHAITALI N INGLE</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>NIKHIL JADHAV</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>SANJANA Y HODAGE</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>SRISHTI A HANDE</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> <tr> <td>DW-1042/2026-CO</td> <td>Computer Software</td> <td>Title-A Travel Plan Making Platform</td> <td>SUJIT CHAUDHARI</td> <td>PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201</td> <td>Re-Scrutiny</td> </tr> </tbody> </table> <p>*Work awarded: Work yet to be received.  *Awaiting: Examined/Assessed Application in mandatory waiting period of one month/Copyright Act 1997.  *Documents not received, formally check failed: Documents/works not received only after making payment.  *Abandoned: Reply to Correspondence letter issued but received/works not received after filing.  *Scrutiny: Application is under process.  *Re-Scrutiny: Application is under process.  *Hearing for Hearing: Proceeding for hearing process.  *Hearing: Hearing process.  *Sub-Judice: Pending decision of the competent court of law.  *Registration: PCC is generated.</p>	Diary Number	Class of Work	Title of Work	Applicant Name	Communication Address	Status	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	AKHILESH R GONDWAL	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	CHAITALI N INGLE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	NIKHIL JADHAV	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SANJANA Y HODAGE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SRISHTI A HANDE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny	DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SUJIT CHAUDHARI	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny
Diary Number	Class of Work	Title of Work	Applicant Name	Communication Address	Status																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	AKHILESH R GONDWAL	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	CHAITALI N INGLE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	NIKHIL JADHAV	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SANJANA Y HODAGE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SRISHTI A HANDE	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
DW-1042/2026-CO	Computer Software	Title-A Travel Plan Making Platform	SUJIT CHAUDHARI	PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH, PLOT B, SURVEY 110, LAKSHMIDNAGAR, RAVET, PUNE-412201	Re-Scrutiny																																								
9	Best Presentation Award	Mr. Ganesh M. Fodase received the Best Paper Award at the International Conference on Sustainable Mechanical Engineering																																											

		and Design held at PCCOER, Pune.	
10	<p><b>Research Publications:</b></p> <p>2 Papers Published in Scopus Indexed Journals(2025)</p> <p>1 accepted in scopus index conference</p> <p>1 published in international Journal</p> <p>1 Scopus Paper Under Review</p> <p>1 Scopus Paper Submitted</p> <p><b>Intellectual Property:</b></p> <p>2 Copyrights Filed</p> <p>1 Patent Filed</p>	Mr.G.M.Fodase	<a href="https://drive.google.com/drive/folders/10BHAqjZs4CLNIPrvSiTflcRN1orzuB9R?usp=drive_li">https://drive.google.com/drive/folders/10BHAqjZs4CLNIPrvSiTflcRN1orzuB9R?usp=drive_li</a>