Curriculum Vitae

Name: Dr. Swamini Chopra
Address: Flat no. 10-B, Yash Residency, Near Hanuman Temple, Padampura, Chh. Sambhajinagar – 431001.
E-mail: swamini.chopra@mit.asia, chopra.swamini@gmail.com
Mobile: +91-8767232440
Date of Birth: 11th November 1991

Academic Credentials

Class/ Degree	Specialization	Institution	University	Year	%/ CGPA	Class
Visiting Post-Doctoral Fellowship	Material Technology	-	Turkish Aeronautical Association University, Turkey	2025	-	-
Ph.D.	Metallurgical and Materials Engineering	V.N.I.T. Nagpur	-	Jan 2019	-	-
M. Tech.	Manufacturing Engineering	Dr. B.A.T.U. Lonere	Dr. B.A.T.U. Lonere	2015	8.82	*I class with Distinction*
B.E.	Mechanical Engineering	D.I.E.M.S. Chh. Sambhajinagar	Dr. B.A.M.U. Chh. Sambhajinagar	2013	82.13%	*I class with Distinction* ***(Gold Medal)***

Post-Doctoral Research: Sustainable Polymer Technology for Automobiles: Correlation between Functional Groups of Polymers and Cryogenic Treatment Parameters for Enhanced Mechanical Performance

Ph.D. Thesis Title: Development of Polymer/MWCNT Nano-composites and their Post-processing for Mechanical and Tribological Applications

M.Tech. Project: Characterization and Performance Evaluation of Cryogenically Treated CBN Inserts

Key Research Areas: Polymers and composites, Carbon Nanotubes (CNTs), Polymer and Metal Nano-composites, Cryogenic treatment of Materials, Microwave treatment of Polymers, Tensile properties and Tribological performance of Materials, Materials structural characterization.

Experience - Research

Sr. No.	Organization	Post	From To	No. of Years
1	Maharashtra Institute of Technology, Chh. Sambhajinagar	Asst. Prof. – Research	June 2019 - Till Date	5 Year 10 Months
2	Defence Institute of Advanced Technology, Pune	J.R.F.	September 2019 - May 2019	9 Months
3	Visvesvaraya National Institute of Technology, Nagpur	Research Scholar with T.A.	July 2015 - July 2018	3 Years
4	Dr. Babasaheb Ambedkar Technological University (B.A.T.U.), Lonere	M. Tech Scholar with Teaching Assistantship	July 2013 - July 2015	2 years

Experience - Teaching

Sr. No.	Organization	Post	From To	No. of Years
1	Maharashtra Institute of Technology, Chh. Sambhajinagar	Asst. Prof. – Research	June 2019 - Till Date	5 Year 10 Months
2	Visvesvaraya National Institute of Technology, Nagpur	Research Scholar with T.A.	July 2015 - July 2018	3 Years
3	Dr. Babasaheb Ambedkar Technological University (B.A.T.U.), Lonere	M. Tech Scholar with Teaching Assistantship	July 2013 - July 2015	2 years

List of Courses Taught/Teaching at UG level

Taught/ Teaching the following courses as Assistant Professor – Research at M.I.T. Chh. Sambhajinagar:

- Materials and Metallurgy (Theory and Lab)
- Manufacturing Processes (Theory)
- Additive Manufacturing (Theory)
- Automobile Engineering (Theory)
- Internal Combustion Engines (Theory)
- Professional English (Lab)
- Design of Machine Elements I (Lab)

Taught the following courses as Teaching Assistant at V.N.I.T. Nagpur:

- Microcopy and X-Ray Diffraction (Lab)

Taught the following courses as Teaching Assistant at Dr. B.A.T.U. Lonere:

- Engineering Graphics (Lab)
- Materials and Metallurgy (Lab)
- General Aptitude to GATE aspirants (in-house program by Mechanical Dept.)

List of Courses Taught/Teaching at PG level

Taught/ Teaching the following courses as Assistant Professor – Research at M.I.T. Chh. Sambhajinagar:

- Advanced Manufacturing Processes (Theory)
- Advances in Materials (Theory)

Taught the following courses as Teaching Assistant at V.N.I.T. Nagpur:

- Structural Characterization of Materials (Lab)

Additional Assignments/Duties

- **Associate Dean (R&D and Innovation)** from December 2023.
- **Research Center Coordinator** for Mechanical Engineering Department from July 2021.
- **Central Research Coordinator** from September 2020 to June September 2022.

Membership of Professional Bodies

- **Affiliate Member** of **Royal Society of Chemistry**. Membership no.: 732270.
- **Life member** of **Indian Cryogenic Council**. Membership no.: LM-811.
- **Life member** of **The Indian Science Congress Association**. Membership no.: L35623.
- **Professional member** of **Institute of Scholars**. Membership no.: InSc20202360.

Research Projects/Projects Guided

Research Projects Completed:

1. Microstructural modification and property evaluation of Rolled Steel Reinforcement Bar using Jominy End Quench Method.
   Industrial project in collaboration with POLAAD STEEL Bhagyalakshmi Rolling Mill, Jalna.
   PI: C. L. Gogte, Co-PI: Swamini Chopra.
2. Cryogenic Treatment of PA66/GF Clutch Plate Facing**.**
   Industrial project in collaboration with Sanjay Techno Plast Pvt. Ltd. Waluj.
   PI: Swamini Chopra, Co-PI: C. L. Gogte, Ganesh Kotiye.
3. Development of a graphene-based composite coating by thermal spray coating technique.
   Research project in collaboration with Matverse Vision Pvt. Ltd. Nagpur.
   PI: K. N. Pande, Co-PI: Swamini Chopra.
4. Cryogenic Treatment of UHDPE Knee Prosthesis.

Research project in collaboration with University of Salerno, Italy.
PI: C. L. Gogte, Peirpaolo Carlone, Co-PI: D. R. Peshwe, Swamini Chopra, K. N. Pande.

5. Cryogenic Treatment on Industrial Grade PA, PP and LLDPE.
   Research project in collaboration with Matverse Vision Pvt. Ltd. Nagpur.
   PI: Swamini Chopra, Co-PI: K. N. Pande.

Research Projects Ongoing:

1. Zinc extraction from Induction Furnace Dust (IFD) using Hydrometallurgy and Pyrometallurgy routes.
   Industrial project in collaboration with POLAAD STEEL Bhagyalakshmi Rolling Mill, Jalna.
   PI: Swamini Chopra, C. L. Gogte, Co-PI: K. N. Pande
2. Cryogenic Treatment for the Surface Modification of MWCNTs.
   Research project in collaboration with R.T.M. Nagpur University, Nagpur.
   PI: Swamini Chopra, Co-PI: Abhay Deshmukh, K. N. Pande.
3. Fabrication of polymer profile sheets reinforced with Bagasse and Bamboo fibers for structural applications.
   Research project in collaboration with Matverse Vision Pvt. Ltd. Nagpur.
   PI: Swamini Chopra, Co-PI: K. N. Pande.

Projects guided and co-guided as Assistant Professor - Research at M.I.T. Chh. Sambhajinagar:

B.Tech projects: 24 completed, 2 ongoing
M.Tech projects: 1 completed, 2 ongoing
Ph.D. scholars (as co-guide): 4 ongoing
Minor projects: 12 completed
R&D projects: 11 completed, 1 ongoing

Projects co-guided as Junior Research Fellow at D.I.A.T. Pune:

M.Tech projects: 2

Projects co-guided as Teaching Assistant at V.N.I.T. Nagpur:

B.Tech projects: 5
M.Tech projects: 1
Minor projects: 7

Projects co-guided as Teaching Assistant at B.A.T.U. Lonere:

Minor projects: 1

Computer/Software Proficiency

- MS Office (MS Word, MS Excel and MS Power Point)
- Origin 8.0
- ChemDraw 12
- X-Pert High Score Plus

Seminar/Workshop/ Industrial Training/ STTP//FDP/CEP/Conference Attended

Conferences:

1. International Conference on Nano Structured Materials and Nanocomposites (ICN-2024), Mahatma Gandhi University Kottayam, Kerala, May 10-12, 2024.

2. Royal Society of Chemistry's RSC Poster LinkedIn Symposium, United Kingdom (Virtual), March 5-6, 2024.
3. International Conference on Materials Science and Nanotechnology for Sustainable Applications (ICMSNSA-2023), MGM University Chh. Sambhajinagar, March 23-24, 2023.
4. International Conference on Environmental Sustainability (ICES-2023), V.J.T.I. Mumbai, March 16-17, 2023.
5. International Conference of Powder Metallurgy and Particulate Matter + Exhibition (PM 23), COEP Pune and PMAI, March 13-15, 2023.
6. Royal Society of Chemistry's RSC Poster Twitter Conference, United Kingdom (Virtual), Feb 28 and March 01, 2023.
7. 4th International Conference on "Processing and Characterization of Materials" (ICPCM-2022), N.I.T. Rourkela on December 9-11, 2022.
8. 2nd Edition of International Conference on Materials Science and Engineering, Singapore (Hybrid event), March 28-30, 2022.
9. Royal Society of Chemistry's RSC Poster Twitter Conference, United Kingdom (Virtual), March 01-02, 2022.
10. Materials Chemistry 2020 International Gathering Global Virtual Summit on Advances in Materials, Physics and Chemistry Science, United Kingdom (Virtual), September 11-12, 2020.
11. International Conference on Flyash Utilization (GREEN ASHCON 2017), Dr. Babasaheb Ambedkar Auditorium, Deeksha Bhoomi, Nagpur, December 15-17, 2017.
12. International Conference on Recent Advances in Materials and Manufacturing Technologies (IMMT 2017), BITS Pilani Dubai Campus, November 28-29, 2017.
13. International Conference on Advanced Rechargeable Batteries & Allied Materials (ICARBM), C-MET Pune, March 8-10, 2017.
14. International Conference on Modern Trends in Engineering, Science and Technology (ICMTEST), Vishwatmak Om Gurudev College of Engineering, April 9-10, 2016.
15. International Conference on Precision, Meso, Micro and Nano Engineering (COPEN 9), I.I.T. Powai, December 10-12, 2015.
16. 4th International Conference on Materials Processing and Characterization (ICMPC), G.R.I.E.T. Hyderabad, March 14-15, 2015.
17. International Colloquium on Materials, Manufacturing and Metrology (ICMMM), I.I.T. Madras, August 8-9, 2014.
18. 2nd International Conference on Current Trends and Challenges in Management, Engineering, Computer Applications and Technology (ICCTCMECAT), D.I.E.M.S. Chh. Sambhajinagar, March 23-24, 2013.
19. National Conference on Materials in Advanced Technology and Application (MATA), M.I.T. Chh. Sambhajinagar, September 20-21, 2016.
20. National Conference on Energy: Needs and Current Trends (ENACT), Dr. B.A.T.U. Lonere, December 19-20, 2014.
21. National Conference on Social Sensitization Renaissance 2014, V.N.I.T. Nagpur, March 22-23, 2014.

Workshops:

1. One-day Workshop on Opportunities in Research and Development in Armament Establishments (ARMREB – 2020) jointly organized by Armament Research Development Establishment, DRDO, Pune and Dept. of Metallurgical Engineering and

Material Science and Dept. of Mechanical Engineering, IIT Indore on 26th August 2020 (Online).
2. Five days Hands on Workshop on Patent Searching, Drafting and Filing (Online mode) organized by Dept. of Computer Science and Engineering, Panimalar Institute of Technology, Chennai in association with Turnip Innovations and Exilyze Intellectual Services during 29th May-02nd June 2020.
3. Two days National Workshop on Small and Wide Angle X-Ray Scattering (SWAXS – 2018) organized by Dept. of Metallurgical and Materials Engineering, D.I.A.T., Dept. of Defence R&D, Pune and Anton-Paar (India) during 12th-13th December 2018.
4. Five Day National Workshop on Diffraction and Microscopy (WDM - 2018) organised by Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur during 25th to 29th August 2018.
5. Five Day Workshop on Failure Analysis of Engineering Materials organised by Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur with the support of Board of Research in Nuclear Sciences (B.R.N.S.) and The Indian Institute of Metals (I.I.M.)-Nagpur Chapter during 9th to 13th December 2017.
6. Five Day Workshop on High Resolution X-ray and Electron Diffraction organised by TEQIP and Knowledge Incubation Centre at Department of Material Science and Engineering, I.I.T. Kanpur during 1st to 5th February 2016.
7. One Day Pre-Workshop during COPEN 9 International Conference on Precision, Meso, Micro and Nano Engineering organised by Department of Mechanical Engineering, I.I.T. Powai on 9th December 2015.
8. Two Day Workshop on Machining of Advanced Materials: A Research Perspective (MAM – 2015) organised by Department of Mechanical Engineering, V.N.I.T. Nagpur during 4th and 5th December 2015.
9. One Day Workshop on Advanced Characterization Techniques during 7th National Symposium for Materials Research Scholars, MR-15 organised by Department of Metallurgical Engineering, I.I.T. Powai on 20th May 2015.

STTP and FDP:

1. Five Day FDP on How to write Article & Publish in Journals organized by Yashoda Technical Campus, Faculty of Engineering & Polytechnic, Satara during 13th to 17th February 2023.
2. One week Online FDP on Outcome Based Teaching-Learning organized by Department of Chemical Engineering, Pravara Rural Engineering College, Loni during 21st to 25th March 2022.
3. One week Online FDP on Nanoscience and Nanotechnology – Current Perspectives jointly organised by Dept. of Physics and Dept. of Mechanical Engineering, G. H. Raisoni College of Engineering, Nagpur in association with The Institution of Engineers (India), Nagpur Local Centre during 27th July to 01st August 2020.
4. Five Day STTP on Characterization of Materials (COM - 2018) organised by Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur during 22nd to 26th March 2018.
5. STTP on Research Methodology organised by Department of Mechanical Engineering, Dr. B.A.T.U., Lonere during 27th to 29th September 2014.

Webinars:

1. Live session on Patent Protection for Innovation Driven Educational Institutes organized by Turnip Innovations, in association with The Frontiers Legal, on 29th August 2020.

2. International Webinar on Supercapacitors: A Futuristic Energy Storage Device organized by Sri Sathya Sai College for Women, Bhopal on 20th August 2020.
3. Online Webinar on Development and Use of Rubric for Effective assessment organised by NITTR Bhopal on 28th July 2020.
4. One week National Webinar Series on Recent Advances in Engineering and Technology organised by Raisoni Group of Institutions during 08th-13th June 2020.
5. Online Webinars on Opportunities for Mechanical Engineers in AI World and Journey of Excellence through TPM organized by Dept. of Mechanical Engineering, Maharashtra Institute of Technology, Chh. Sambhajinagar on 06th June 2020.
6. Online Interactive Session on How to Prepare for NBA by Dr. Vitthal Shrirang Bandal organised by Internal Quality Assurance Cell (IQAC), Maharashtra Institute of Technology, Chh. Sambhajinagar on 09th May 2020.

Seminar/Workshop/ Industrial Training/ STTP//FDP/CEP/Conference organized

1. Organizing Committee Member One-Day Research Conclave on Recent Advancements in Science and Technology on 20th January 2024 at M.I.T. Chh. Sambhajinagar.
2. Course Coordinator for Industry Ready Course conducted by Sanjeev Auto Parts, Waluj "Elite Manufacturing Mastery Program" for MIT Mechanical Engineering Students, launched form AY 2023-24.
3. Assisted in organizing Five Day ATAL-FDP on Industry 4.0 during 11th to 16th December 2024 at M.I.T. Chh. Sambhajinagar.
4. Organizing Secretory for International Conference of Recent Trends in Mechanical Engineering 2021 (Online Mode) during 22nd and 23rd January 2021 at M.I.T. Chh. Sambhajinagar.
5. Coordinator for Five Day National Level Technical Symposium on Advances in Materials and Manufacturing Engineering (AMME-2020) during 30th June to 4th July 2020 at M.I.T. Chh. Sambhajinagar.
6. Assisted in organizing Management Development Programme under Disha Project Enhancing Skills for Better Efficiency for IOCL dealers on 19-20th February 2018 at V.N.I.T., Nagpur.
7. Assisted in organizing Five Day Short Term Training Program on Characterization of Materials (COM - 2018) during 22nd to 26th March 2018 at V.N.I.T., Nagpur.
8. Assisted in organizing Five Day Workshop on Failure Analysis of Engineering Materials during 9th to 13th December 2017 at V.N.I.T., Nagpur.
9. Assisted in organizing Management Development Programme under Disha Project Enhancing Skills for Better Efficiency for IOCL dealers on 16-17th December 2016 at V.N.I.T., Nagpur.

Invited talks delivered

1. Natural-Derived Electrolytes for Supercapacitors: Investigating the potency of Aloe-vera pulp based Electrolyte Solution, during International Conference on Nano Structured Materials and Nanocomposites (ICN-2024), Mahatma Gandhi University Kottayam, Kerala, May 10-12, 2024.
2. Cryogenic Treatment: Evolution for Polymeric Materials, during 2nd Edition of International Conference on Materials Science and Engineering (Hybrid event) on March 28-30, 2022
3. A Novel Microwave Treatment to Augment the Mechanical properties of Polymeric Materials, during Materials Chemistry 2020 International Gathering Global Virtual

Summit on Advances in Materials, Physics and Chemistry Science, United Kingdom (Virtual), Dt. September 11-12, 2020.

4. Polymers, Composites and Cryogenic Treatment of Materials, Institute of Chemical Technology (ICT), Jalna, Dt.: 11 September 2019.
5. Re-use of Industrial Waste Fly-ash (FA) as an efficient reinforcement material for polymer composites, during International Conference on Flyash Utilization (GREEN ASHCON 2017), Dr. Babasaheb Ambedkar Auditorium, Deeksha Bhoomi, Nagpur, Dt. 17 December 2017.

Projects, Research Grants and Consultancy

1. Design and Development of Carpentry/Pottery Tools & Tools for Wood Craft/Toy Making.
   Funding received by VNIT Nagpur from KVIC S&T Grant.
   Amount: 14.69 Lakhs.
   PI: M. M. Thaware. Co-PI: Kavita Pande, Swamini Chopra, Sneha Dandekar.
2. Development of GO and RGO reinforced PP and LLDPE nano-composites.
   Funding received by Matverse Vision Pvt. Ltd. from All India Metal Corporation, Mumbai.
   Amount: 1.1 Lakhs.
   PI: Swamini Chopra. Co-PI: Kavita Pande.
3. Cryogenic Treatment of Rubber Tyre Treads.
   Sponsorship received by students from Shriram Maruti Tyres, Shendra.
   Amount: 36,000/-.
   PI: Swamini Chopra, Co-PI: Yogesh Salame, Kavita Pande, A. T. Autee.

Intellectual Property Rights

1. Title: A blend of poly trimethylene terephthalate and poly propylene and process for preparation thereof
   Status: Granted in November 2023 (Patent no. 475143)
   Contributors: Shrikant Deo, Dilip R. Peshwe, Kavita N. Pande, Swamini Chopra.
2. Title: Process for optimization of cryogenic treatment for medical grade UHDPE
   Status: Granted in October 2021 (Patent no. 378960)
   Contributors: Swamini Chopra, Kavita Pande, Dilip Peshwe, C. L. Gogte, P. Carlone.
3. Title: Post-processing Microwave Treatment of Polymer and Polymer/CNT Nano-composites
   Status: Granted in September 2020 (Patent no. 347541)
   Contributors: Swamini Chopra, Kavita Pande, Abhay Deshmukh, D.R. Peshwe.

List of Research Publications

Papers in National/ International Journal

1. Deepa B. Bailmare, Swamini Chopra, Shubham Patharkar, Danish Khatik, Satnamkaur S. Mattu, Kavita Pande, Abhay D. Deshmukh. Advancement in Supercapacitor Technology: A Novel Microwave-assisted Carbonization Route for Onion Peel Waste-derived Electrode Material. AIP Conference Proceedings (Accepted for publication). [IF 0.386]

2. Prajakta Mane, Ashok J. Keche, Swamini Chopra. Wear performance and Structural analysis of Injection moulded PBT/PC blends after Cryogenic Treatment. AIP Conference Proceedings (Accepted for publication). [IF 0.386]
3. Sameer Pitale, Ashok J. Keche, Swamini Chopra. Investigations on the Effect of Vapor Smoothing Process in Trichloromethane(Chloroform) on the Surface Characteristics, Mechanical Properties and Chemical Structure of 3D Printed Poly-lactic-acid (PLA). Engineering Research Express, 6: 045579, 2024. [IF 1.5]
4. Prajakta Mane, Ashok J. Keche, Swamini Chopra. Correlation of Wear Behavior of PBT/PC Blend with Crystallographic Structure: A Comprehensive Study on Wear Rate and Crystal Structure. Material Science Forum, 1135: 83-90, 2024. [SJIF 0.158]
5. Deepa B. Bailmare, Kavita N. Pande, Dilip Peshwe, Swamini Chopra, Abhay D. Deshmukh. Boosting capacitive performance of electrode material by facile incorporation of phthalic acid ligand-based bimetallic MOF for supercapacitors. Electrochimica Acta, 503: 144856, 2024. [IF 5.5]
6. Prajakta Mane, Ashok J. Keche, Swamini Chopra, Kavita Pande. Effect of polycarbonate (PC) content on the mechanical properties, morphology and transesterification mechanism of PBT/PC immiscible blends. Journal of Applied Polymer Science, 141: e55902, 2024. [IF 2.7]
7. Kundansing Naglot, Mahesh Wadwale, Rutvik Gajjalwar, Yogesh G. Jadhav, Swamini Chopra. Experimental Investigations for Comparing the Effectiveness of Heat Treatment and Cryogenic Treatment on Wear Performance of EN-47 Spring Steel. International Journal of Manufacturing and Materials Processing, 9: 1-9, 2023. [SJIF 5.904]
8. Swamini Chopra, Kavita Pande, Amisha Kelkar, Jash Panchmatiya, Sumitra Sharma, Abhay Deshmukh, Dilip Peshwe. Understanding the structural changes, interfacial mechanisms and mechanical properties of polymer-MWCNT nanocomposites after microwave treatment. Polymer Composites, 1-14, 2023. [IF 5.2]
9. Y. G. Jadhav, Md. Danish Khatik, Shubham Patharkar, Swamini Chopra, Kavita Pande, A. D. Deshmukh. Assessment of Carbon Fibre (CF) and Carbon Nanotube (CNT) as Supercapacitor Electrode on Surface Activated Nickel foam. Journal of Materials & Metallurgical Engineering, 13: 10-14, 2023. [SJIF 6.327]
10. Swamini Chopra, Tushar S. Walwekar, Ganesh M. Surushe, Kavita Pande, G. M. Kotiye, V. S. Damdhar, S. R. Kulkarni. Improving the Wear Performance of PA-6 by reinforcing Graphite and subsequent Cryogenic Treatment. Transactions of PMAI, 48: 66-76, 2023. [IF -]
11. Kavita Pande, Swamini Chopra, Abhay D. Deshmukh, Shrikant Deo, Anupama Kumar, D. R. Peshwe. Cryogenic treatment: Processing segment to tailor the interface and improve mechanical performance of impact modified PET/PBT blends. Results in Materials, 20: 100451, 2023. [IF -]
12. Swamini Chopra, Kavita Pande, Priadarshni Puranam, Abhay D. Deshmukh, Avinash Bhone, Rameshwar Kale, Abhishek Galande, Balaji Mehtre, Jaydeep Tagad, Shrikant Tidake. Explication of Mechanism governing Atmospheric Degradation of 3D-printed Poly(lactic acid) (PLA) with different In-fill Pattern and varying In-fill Density. RSC Advances, 13: 7135-7152, 2023. [IF 4.036]
13. Manish N. Borse, Manokaran M., Sushil G. Yebaji, Swamini Chopra, Ayush Sourav, Bhaskar Majumdar, Arvindha Babu, Shanmugasundaram Thangaraju. Development and characterization of a novel Y-Ti-O based aluminum nano-composite processed by high energy ball-milling and spark plasma sintering. Materials Characterization, 190: 112103, 2022. [IF 4.7]
14. Kavita A. Deshmukh, Swamini Chopra, Pranjali Khajanji, Abhay Deshmukh, Dilip Peshwe. Effectiveness of cryogenic treatment on PBT composites: prediction of

interfacial interaction parameter and its influence on filler bonding and wear performance. Polymer Bulletin, 79: 1-25, 2022. [IF 3.2]

15. Swamini Chopra, Kavita A. Deshmukh, Kanchan Zine, Kartik Rathod, Abhay Deshmukh, Dilip Peshwe. A new approach of microwave treatment to augment the mechanical properties of polymeric materials. Polymer Engineering & Science, 61: 3125-3134, 2021. [IF 2.573]
16. Vinayak Gawande, Salil Paranjape, Akshit Garg, Swamini Chopra, Kavita Deshmukh, D. R. Peshwe. Structural studies on Glass fiber reinforced Poly-styrene Composites. Trends in Mechanical Engineering & Technology, 11(3): 32-38, 2021. [SJIF 6.108]
17. Kavita A. Deshmukh, Swamini Chopra, Pranjali Khajanji, Vishakha Gaidhani, Undeti Gopichand, Anjali Gawande, Sakshi Turkar, Falguni Khodaskar, D.R. Peshwe. Augmenting the Wear performance of Epoxy Composites by different fillers: Synthesis of highly crystalline g-C_3N_4 by Simple Pyrolysis and Recycling of Carbon Fibres from old Aircraft Composites. Applied Surface Sciences Advances, 6, (1 December 2021), 100125. [IF 6.2]
18. Poojitha Durgamahanti, Gugulothu Sravanthi, Suniti Shougaijam, Sangeeta Marandi, Swamini Chopra, Kavita Deshmkukh, D. R. Peshwe. Evaluation of Crystallinity in Talc/Poly-styrene Composites by using FTIR and XRD. Trends in Mechanical Engineering & Technology, 11(2): 10–16, 2021. [SJIF 6.108]
19. Saurabh Patil, Kunal Padamwar, Mohammed Mudassir, Swamini Chopra. Design and Development of Vacuum Clamping Device for Nirlep Appliances Pvt. Ltd. International Journal of Manufacturing and Materials Processing 7(2):11-16, 2021. [SJIF 5.904]
20. Swamini Chopra, Kavita A. Deshmukh, Saisha Batthula, Konda Alekhya Phani, Gauri Waghmare, Arabelli Anjali, Mitali Vijay Somvanshi, Neha Virendra Patil, Sidhdant Ramchandra Rakhe, Raju Vishnu Sontakke, Dilip Peshwe, Chandrashekhar L. Gogte, Pierpaolo Carlone. Structural Elucidation and Mechanical Characterization of Cryogenically Treated Ultra-High Molecular Weight Poly-ethylene (UHMWPE). Transactions of Indian Institute of Metals, 74(2): 255-265, 2021. [IF 1.6]
21. Kavita A Deshmukh, Pranjali Khajanji, Swamini Chopra, Abhay Deshmukh, Dilip Peshwe. The influence of Micro-graphite addition on Nucleation efficiency and Isothermal crystallization kinetics of Thermoplastic Polyurethane. Materials Today: Proceedings, 28: 642-650, 2020. [IF -]
22. Swamini Chopra, Vyshnavi Ramanadham, Vullengala Sai Prasanna, Shruti Tiwari, Komal Lad, Kavita A. Deshmukh, D. R. Peshwe. Outcome of using Olive Oils for MWCNT Functionalization and Influence of –OH modified MWCNTs on Mechanical Properties of PA and PBT Polymer Nano-composites. Materials Today: Proceedings, 28: 408-419, 2020. [IF -]
23. Kunal Bhansali, A. J. Keche, C. L. Gogte, Swamini Chopra. Effect of Grain Size on Hall-Petch Relationship during Rolling Process of Reinforcement Bar. Materials Today: Proceedings, 26: 3173-3178, 2020. [IF -]
24. Swamini Chopra, Revati Deshpande, Garima Naik, Kavita Deshmukh, Abhay Deshmukh, D. R. Peshwe. Effect of Microwave Treatment Exposure Time on Functionalization and Purification of Multi-walled Carbon Nanotubes (MWCNTs). Applied Physics A, 125: 855-863, 2019. [IF 2.5]
25. Pranjal Chauhan, Swamini Chopra, T. Shanmugasundaram. Inter-dependency relationships in High Entropy Alloys (HEAs): Phase stability criteria. Advanced Engineering Materials, 21(9): 1900251, 2019. [IF 3.6]
26. Swamini Chopra, Kavita Deshmukh, Abhay Deshmukh, C. L. Gogte, Dilip Peshwe. Prediction, evaluation and mechanism governing interphase strength in tensile fractured PA-6/MWCNT nanocomposites. Composites Part A, 112: 255-262, 2018. [IF 8.7]

27. Swamini Chopra, Kavita A. Deshmukh, Abhay D. Deshmukh, D. R. Peshwe. Functionalization and Melt-compounding of MWCNTs in PA-6 for Tribological Applications. IOP Conference Series: Materials Science and Engineering, 346: 12005, 2018. [IF -]
28. Swamini Chopra, Kavita A Deshmukh, Abhay Deshmukh, Dilip Peshwe. Inflorescence type morphology and Mirror-Mist-Hackle pattern in Tensile Fractograph of MWCNT/PBT Nano-composites. International Journal of Materials Research, 109(6): 561-568, 2018. [IF 0.8]
29. Revati Deshpande, Garima Naik, Swamini Chopra, Kavita A. Deshmukh, Abhay D. Deshmukh, D. R. Peshwe. A study on mechanical properties of PBT nano-composites reinforced with microwave functionalized MWCNTs. IOP Conference Series: Materials Science and Engineering, 346: 12004, 2018. [IF -]
30. Kavita Deshmukh, A.R. Kangda, S.P. Mahajan, Swamini Chopra, Anupama Kumar, D.R. Peshwe. Influence of Talc Particle Size on Nucleating Efficiency of Commercial Isotactic Polypropylene (iPP). Journal of Research in Engineering and Applied Sciences, 3(1): 1-5, 2018. [IF -]
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32. Swamini Chopra, Kavita A. Deshmukh, Dilip Peshwe. Theoretical prediction of interfacial properties of PBT/CNT nanocomposites and its experimental evaluation. Mechanics of Materials, 109: 11–17, 2017. [IF 3.9]
33. Swamini Chopra, Saisha Batthula, Kavita Deshmukh, Dilip Peshwe. Tribological Behaviour of Multi-Walled Carbon Nanotubes (MWCNT) Filled Polybutylene Terephthalate (PBT) Nanocomposites. Transactions of Indian Institute of Metals, 70(3):801-807, 2017. [IF 1.6]
34. Shreshtha S. Mishra, Nandita V. Ghodki, Swamini Chopra, S. A. Pande, Kavita A. Deshmukh, A. D. Deshmukh, D. R. Peshwe. Synthesis and Characterization of a Novel Conducting Biopolymer Chitosan Grafted Polyaniline-Polypyrrole Flexible copolymer. International Journal of Science and Research Methodology, 8(1): 104-111, 2017. [SJIF 6.418]
35. Priyanka Khandal, Shweta Gite, Swamini Chopra, S. A. Pande, Kavita A. Deshmukh, A. D. Deshmukh, D.R.Peshwe. Preparation, Characterization and Variation of Electrical Conductivity with Temperature of Aniline-Pyrrole Copolymer doped with CNT (in-situ and ex-situ). VIBGYOR – Bi Annual Multidisciplinary Research Journal, 4(1): 71-74, 2017. [IF -]
36. Kavita Deshmukh, Maithili Bhakare, Samyukta Shrivastav, Vaishnavi Naik, Swamini Chopra, C.L. Gogte, D.R. Peshwe. Synthesis and Characterization of Self-Healing Thermoplastic Polyurethane (TPU) Thin Films Reinforced with Multi-wall Carbon Nanotubes (MWCNTs). Journal of Nano Technology and Its Application in Engineering, 2(1&2):1-13, 2017. [IF -]
37. Swamini Chopra, Kavita Deshmukh, Abhay Deshmukh, C. L. Gogte, Dilip Peshwe. The Influence of Multi-Walled Carbon Nanotubes on the Nucleation, Crystallization and Tensile Properties of PA-6/MWCNT Composites. Journal of Basic and Applied Research International, 19(4): 247-252, 2016. [IF -]
38. Swamini Chopra, Pooja Achari, Vaishali Kulkarni. Current Market Techniques used to Reduce CO_2 Emissions from Diesel Engines. International Journal of Scientific Engineering and Applied Science, 2(12):84-93, 2016. [IF -]

39. Radheshyam Wagh, Sagar Nikam, Yogesh Salame, Swamini Chopra. Conversion of Single Cylinder 2-Stroke Petrol Engine into Compressed Air Engine using a Cam-operated DCV. International Journal on Recent and Innovation Trends in Computing and Communication, 4(4): 24-28, 2016. [IF -]
40. Swamini A. Chopra and V. G. Sargade. Metallurgy behind the Cryogenic Treatment of Cutting Tools: An Overview. Materials Today: Proceedings, 2:1814-1824, 2015. [IF -]
41. Sandeep Desai, Swamini Chopra, Raju Pawade. Energy Consideration in Metal Machining. International Journal on Intelligent Electronic System, 9(1):24-30, 2015. [IF -]
42. Swamini A. Chopra, Vaishali D. Kulkarni, Pooja V. Achari. A Study of Techniques to Reduce CO_2 Emissions from Single Cylinder, Air-cooled Diesel Engine for 3-Wheeler. International Journal of Multidisciplinary Research, 1(12):57-60, 2013. [IF -]

Books Authored

1. Title: Advances and Research in Agricultural Tools
   Authors: D. R. Peshwe, Ram Kumar Singh, Kavita Deshmukh, Swamini Chopra, Samvidha Kulkarni, Maithili Bhakare, Samyukta Shrivastav, Sayali Chetule, Sanyam Totade, Janhavi Nistane, Vaishnavi Shringi.
   Publisher: MME Publishing House
   Publishing date: October 2018
   ISBN No.: 978-93-5321-785-3
2. Title: Cryogenic Treatment of Cubic Boron Nitride (CBN) Cutting Inserts
   Authors: Swamini Chopra, Kavita Abhay Deshmukh, Dilip R. Peshwe.
   Publisher: LAP LAMBERT Academic Publishing
   Publishing date: August 2017
   ISBN No.: 978-3-330-09080-4

Books Edited

1. Title: Futuristic Trends in Chemical, Material Sciences & Nano Technology
   Editor: Md. Saiful Alam, Swamini Chopra, Raviteja Surakasi, Ankush Gupta
   Publisher: Iterative International Publishers
   Publishing date: April 2024
   ISBN No.: 978-93-6252-734-9
2. Title: Extraction Metallurgy – New Perspectives
   Editor: Swamini Chopra and Thoguluva Vijayaram
   Publisher: InTech Open
   Publishing date: 11th January 2024
   ISBN No.: 978-1-83969-263-5
3. Title: Novel Applications of Carbon based Nano-materials
   Editors: Swamini Chopra, Kavita Deshmukh, Vincent Shantha Kumar, Jitendra Sharma.
   Publisher: CRC Press Taylor and Francis Group
   Publishing date: 06th November 2022
   ISBN No.: 978-1-03202-480-6; eISBN No.: 978-1-00318-354-9

Books Chapters

1. Book Title: Bio-derived Carbon Nanostructures: Fundamentals, Synthesis and Applications
   Editors: Bharat A. Bhanvase and P. Barai
   Chapter: Introduction to Bio-derived Carbon Nanostructures
   Authors: Swamini Chopra, Kavita Pande and Abhay Deshmukh
   Publisher: Elsevier

Publishing date: August 2024
ISBN No.: 978-0-44313-579-8

2. Book Title: Granularity of Materials - Modern Applications
   Editors: Ambrish Singh
   Chapter: Exploring the potential of Aloe-vera extract as a non-hazardous electrolytic solution for batteries
   Authors: Avinash Kale, Arihant Jain, Satyam Kakde, Krushna Hede, Kavita Pande, Abhay Deshmukh, Swamini Chopra
   Publisher: InTech Open
   Publishing date: June 2024
   ISBN No.: 978-0-85014-367-6
3. Book Title: Extraction Metallurgy – New Perspectives
   Editors: Swamini Chopra and Thoguluva Vijayaram
   Chapter: Introductory Chapter: Extraction Metallurgy – New Perspectives
   Authors: Swamini Chopra.
   Publisher: InTech Open
   Publishing date: 11th January 2024
   ISBN No.: 978-1-83969-263-5
4. Book Title: Nanotechnology in Aerospace and Structural Mechanics
   Editor: Noureddine Ramdani
   Chapter: Cryogenic Treatment of Polymer/MWCNT Nano-composites for Mechanical and Tribological Applications
   Authors: Swamini Chopra, S. Sreya, Rohit V. Babhulkar, Swaksha P. Halde, Kavita A. Deshmukh, D. R. Peshwe.
   Publisher: IGI Global Publication
   Publishing date: April 2019
   ISBN No.: 978-15-2257-921-2
5. Book Title: Advances in Nanotechnology for Environmental Sustainability and Biomedical Innovations
   Editors: Blessy Babukutty, Sabu Thomas
   Chapter: Discovery of a New Methyl Substituted Derivative of Hecogenin from Tribulus terrestris Fruit (Gokhru)
   Authors: Kavita Pande, Swamini Chopra, V. I. Ramteke, S. H. Sahare, Abhay D. Deshmukh, D. R. Peshwe.
   Publisher: Cambridge University Press
   Publishing date: February 2025
   ISBN No.: Ongoing
6. Book Title: Advances in Nanotechnology for Environmental Sustainability and Biomedical Innovations
   Editors: Blessy Babukutty, Sabu Thomas
   Chapter: Natural-Derived Electrolytes for Supercapacitors: Investigating the potency of Aloe-vera pulp based Electrolyte Solution
   Authors: Satnamkaur S. Mattu, Ranjit Dabhade, Deepa B. Bailmare, Kavita Pande, Abhay D. Deshmukh, Swamini Chopra.
   Publisher: Cambridge University Press
   Publishing date: February 2025
   ISBN No.: Ongoing

Papers in National /International Conference Proceedings

1. Avinash Kale, Arihant Jain, Satyam Kakde, Krushna Hede, Swamini Chopra, Kavita Pande, Abhay Deshmukh. Exploring the potential of Aloe-vera extract as a non-hazardous electrolytic solution for batteries at International Conference on Environmental Sustainability (ICES-2023), V.J.T.I. Mumbai on March 16-17, 2023, Paper ID: 15
2. V. I. Ramteke, Kavita Pande, Swamini Chopra, A. A. Dakhore, S. H. Sahare, S. G. Rewatkar, D. R. Peshwe, N. J. Durugkar. Discovery of a New Methyl Substituted Derivative of Hecogenin from Tribulus terrestris Fruit (Gokhru) at International Conference on Environmental Sustainability (ICES-2023), V.J.T.I. Mumbai on March 16-17, 2023, Paper ID: 10
3. Swamini Chopra, Kavita Pande, Amisha Kelkar, Jash Panchmatiya, Sumitra Sharma, Abhay Deshmukh, Dilip Peshwe. Post-processing Microwave Treatment of Polymer/MWCNT Nano-composites: A Comprehensive Evaluation of Structure, Properties and Interfacial Mechanisms at 4th International Conference on "Processing and Characterization of Materials" (ICPCM-2022), N.I.T. Rourkela on December 9-11, 2022, Paper ID: CM-28
4. Saurabh Patil, Kunal Padamwar, Mohammed Mudassir, Swamini Chopra. Design and Development of Vacuum Clamping Device for Nirlep Appliances Pvt. Ltd. at International Conference on Recent Trends in Mechanical Engineering (ICRTME-2021), M.I.T. Chh. Sambhajinagar on January 22-23, 2021, Paper no. DSG-111
5. Vinayak Gawande, Salil Paranjap, Akshit Garg, Swamini Chopra, Kavita Deshmukh, D. R. Peshwe. Structural studies on Glass fiber reinforced Poly-styrene Composites at International Conference on Recent Trends in Mechanical Engineering (ICRTME-2021), M.I.T. Chh. Sambhajinagar on January 22-23, 2021, Paper no. MAT-133
6. Poojitha Durgamahanti, Suniti Shougaijam, Sangeeta Marandi, Gugulothu Sravanthi, Swamini Chopra, Kavita Deshmukh, D. R. Peshwe. Evaluation of Crystallinity in Talc/Poly-styrene Composites by using FTIR and XRD at International Conference on Recent Trends in Mechanical Engineering (ICRTME-2021), M.I.T. Chh. Sambhajinagar on January 22-23, 2021, Paper no. MAT-136
7. Swamini Chopra, Kavita A. Deshmukh, Kanchan Zine, Kartik Rathod, Abhay Deshmukh, Dilip Peshwe. A Novel Microwave Treatment to Augment the Mechanical properties of Polymeric Materials at Materials Chemistry 2020 International Gathering Global Virtual Summit on Advances in Materials, Physics and Chemistry Science (Virtual) on September 11-12, 2020
8. Swamini A. Chopra, Kavita Pande, D.R. Peshwe. Augmentation of Mechanical Properties by Post-Processing Treatment of Polymers and Polymer/CNT Nano-Composites at Research Scholar Day 2018, V.N.I.T. Nagpur on March 18, 2018, Abstract no. K15
9. Swamini A. Chopra, Kavita A. Deshmukh, Abhay D. Deshmukh, D.R. Peshwe. Effect of Industrial Waste Fly-ash (FA) reinforcement on the Tensile and Wear Properties of Nylon-6 (PA-6) at International Conference on Flyash Utilization (GREEN ASHCON 2017), Dr. Babasaheb Ambedkar Auditorium, Deeksha Bhoomi, Nagpur, December 15-17, 2017, Souvenir pg no. 4
10. Sonal P. Ghawade, Kavita A. Deshmukh, Swamini Chopra, D.R. Peshwe, S.J. Dhoble, Abhay D. Deshmukh. Rapid Synthesis of Highly Luminescent c-Dots for Improving the Efficiency of C-Si Solar Cell presented at International Conference on Advanced Rechargeable Batteries & allied Materials (ICARBM) 2017, C-MET Pune, March 8-10, 2017, Souvenir pg no. 124
11. Swamini A. Chopra and V. G. Sargade. Hard Turning of AISI 52100 Bearing Steel Using Cryogenically Treated CBN Inserts presented at International Conference on Precision,

Meso, Micro and Nano Engineering (COPEN 9), I.I.T. Powai, December 10-12, 2015, Paper ID: 138

12. Sandesh S. Bhadane, Swamini A. Chopra, Mitali S. Mhatre, Raju S. Pawade. Effect of Water Vapour Coolant on the Surface Integrity of Turned Ti-6Al-4V alloy presented at International Colloquium on Materials, Manufacturing and Metrology (ICMMM), I.I.T. Madras, August 8-9, 2014, Paper ID: ICM 2118
13. Swamini A. Chopra, Vaishali D. Kulkarni, Pooja V. Achari. A Study of Techniques to Reduce CO_2 Emissions from Single Cylinder, Air-cooled Diesel Engine for 3-Wheeler presented at 2nd International Conference on Current Trends and Challenges in Management, Engineering, Computer Applications and Technology (ICCTCMECAT), D.I.E.M.S. Chh. Sambhajinagar, March 23-24, 2013, Souvenir pg. no. 57

NPTEL Certification

Start Date	End Date	Duration (in Weeks)	Course Name	Marks (Out of 100)	Performance
Sept 2020	Dec 2020	12	Advanced Materials and Processes	46%	Passed
Sept 2020	Dec 2020	12	Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations	55%	Passed
Jan 2023	Apr 2023	12	NBA Accreditation and Teaching and Learning in Engineering (NATE)	62%	Passed

Awards, Achievements and Recognition

1. Interdisciplinary Research Excellence Award 2025 by Springer in association with MCKV Institute of Engineering, Howrah and Yuan Ze University, Taiwan
2. Adarsh Shikshak Puraskar 2024 by Lion's Club Chhatrapati Sambhajinagar and Indian Medical Association Chhatrapati Sambhajinagar on the occasion of Engineer's Day 2024
3. Invited as a Keynote Speaker to International Conference on Nano Structured Materials and Nanocomposites (ICN-2024), Mahatma Gandhi University Kottayam, Kerala, May 10-12, 2024
4. Women Researcher of India 2023 Award by Raj Square Charity foundation in association with MSME Chamber of Commerce and Industry in India on 8th March 2023
5. Recognized as co-guide for 1 UG project at the Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur for academic year 2022-2023
6. Invited as a Keynote Speaker to 2nd Edition of International Conference on Materials Science and Engineering (Hybrid event) on March 28-30, 2022
7. Recognized as co-guide for 1 Ph.D. scholar and 2 UG projects at the Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur for academic year 2021-2022
8. Recognized and featured as Women in Cryogenics and Superconductivity by Cold Facts, The Magazine of the Cryogenic Society of America in Dec'21-Jan'22, Vol. 37(6)
9. Recognized as a Mentor for Young Science Leaders (YSL) Spring 2021 and mentored 2 candidates in the field of Material science

10. Recognized as co-guide for 1 UG project at the Dept. of Metallurgical and Materials Engineering, V.N.I.T. Nagpur for academic year 2020-2021
11. Recognized as a Mentor for Young Science Leaders (YSL) Autumn 2021 and mentored 3 candidates in the field of Polymer science
12. Research Excellence Award 2020 by Institute of Scholars (InSc) - November 2020
13. Invited as a Keynote Speaker to Materials Chemistry 2020 International Gathering Global Virtual Summit on Advances in Materials, Physics and Chemistry Science (Virtual) on September 11-12, 2020
14. Recognized as a Mentor for Virtual Internship with Science Leaders (#VISL) 2020 and mentored 10 candidates in the field of Nano-materials
15. Recognized and featured as a Team Member of Polymer Recycling and Waste Management at V.N.I.T. Nagpur by Tarun Bharat – Nagpur in October 2018
16. Recognized and featured as Young Professional in the field of Cryogenics by Cold Facts, The Magazine of the Cryogenic Society of America in April 2018, Vol. 34(2)
17. Shri Baburao Bapuraoji Jadhav Gold Medal (Medal of Merit) 2013
18. Shri Balkrishna Limaye Prize (Highest number of marks in B.E. Mechanical) 2013
19. Shri Jivanrai Bodhankar Memorial Prize (First in order of merit in B.E. Mechanical) 2013
20. Smt. Ambabai Deshpande Prize (First in order of merit in B.E. Mechanical) 2013
21. Late Smt. Fulanbai Motilal Darak Rahurikar Prize (First in order of merit in B.E. Mechanical) 2013

Date: 22.04.2025

Place: Chh. Sambhajinagar