**CHHATRAPATI SHIVAJI MAHARAJ INSTITUTE OF TECHNOLOGY**

**DEPARTMENT OF MECHANICAL ENGINEERING**

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| **Name of the Faculty** | Dr. Baljit Singh |

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| E:\Desktop\MY CV\New folder\Baljit_Associate Professor Mechanical Engineering.jpg |

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| **Designation**  | Head of Department |
| **Aadhar ID** | 6330-8396-3292 |
| **No.of B.Tech Project Guided** | 17 |
| **No. of M. Tech Project Guided** | 5 |
| **Area of Specialization**  | Mechanical Engineering (Design & Automation) |
| **UG Degree** | B. Tech (Mechanical Engineering) from Uttar Pradesh Technical University |
| **PG Degree**  | M. Tech (Nano-Material) from Babasaheb Bhim Rao Ambedkar University |
| **Ph.D**  | Mechanical Engineering (Effect of Nanodiamonds on Mechanical and Thermal Properties of Epoxy Nanocomposites) Vellore Institute of Technology |
| **Total Experience** | **Teaching: 5** | **Research: 4** |
| **No. of Journals (SCI & Scopus)** | 14 (4-SCI, 7-SCOPUS & 3-Under Review )  |
| **No. of Patents Published** | 1 |
| **Roles and Responsibilities**  | R&D Coordinator (CSMIT) & NAAC Criteria-3 Incharge |
| **Guest Lecture Delivered**  | Guest Lecture Delivered on **Effective Research Writing** on 3rd March 2024 in Shree Dhanvantry College Engineering & Technology, Surat.  |
| **Post-doc Fellow** | Faculty Research Fellowship Program (IIT-Delhi)Duration- 16 May 2023 to 15 July 2023 |
| **AICTCE ATAL FDP** | 1. Artificial Intelligence for Science and Engineering
2. Recent Advances and Applications of Manufacturing in Industries 4.0
3. Advanced Materials: A Paradigm Shift in Modern Technologies
4. Nanomaterials and its applications
5. AI Evolution: "From Foundations to Generative AI”
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| **Area of Interest:** |
| Surface Modification of Nanocomposite. Synthesis and characterization of Nanocomposite, Mechanical, Rheology, & Thermal analysis of Polymer Nanocomposite. |
| **About My Research work** |
| My research work continued to flourish in the field of synthesis of Nanomaterials for energy applications at Babasaheb Bhimrao Ambedkar University (A Central University) Lucknow where, I got associated with Master of Technology (M. Tech) in Nano-opto electronic (2014-2016). During M. Tech, I have started baby steps of research by synthesizing ceramic nanomaterials that was used to develop high-performance electrode for super-capacitor applications. To advance my research forward, I continued as Ph.D scholar (2016-2022) in the Vellore Institute of Technology in the department of Mechanical Engineering. Right since then, I have rich experience in Surface Modification of Nanomaterials (By Chemical and Physical route) and its characterization, fabrication of Nanocomposites at the appropriate nanoscale as per the application requirements. I carried out the surface modification of Nanomaterials through physical and chemical method (Nanodiamond, Graphene, Carbon nanotubes) to fabricate high-end structural Nanocomposites with high storing efficiency. Also, I have in-depth understanding about physical modification and its effect on crystal structure and hybridizations of Nanomaterials. I have performed various characterization techniques like, FE-SEM, TEM, XRD, FTIR, Raman spectroscopy and UV-visible spectroscopy for detailed studies of Nanomaterials and Nanocomposites. To scale up my research, I was associated with different labs (IIT Bombay, CLRI Chennai, CIPET Chennai & ) to develop Hybrid-Nanocomposites for commercial purpose.  |