



Dr. Sachin B

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PROFESSIONAL EXPERIENCES

Teaching: 07 Years

Research: 03 Years

COURSES TAUGHT

Engineering Materials and Metallurgy, Nano and Smart Materials, Advanced Manufacturing Technology, Manufacturing Processes, Computer Integrated Manufacturing, Non-Traditional Machining, Advanced Metal Forming, Foundry Technology, Mechanical Measurements and Metrology, Engineering Economics.

ABOUT ME

Driven by a profound passion for education, I firmly uphold the belief that a committed educator wields the authority to reshape the world. The provision of a top-tier education to students stands as a pivotal factor in augmenting their technical acumen. Initiating my professional expedition as an Assistant Professor in the Department of Mechanical Engineering at Nitte Meenakshi Institute of Technology in Bengaluru, I have since sustained my scholarly contributions at NIE, Mysuru. Throughout this journey, I have garnered invaluable insights within educational establishments, nurturing expertise encompassing research and educational administration. This period has also witnessed my proactive engagement in diverse developmental endeavours within these spheres. Of particular significance, I was honoured to be bestowed with the Ministry of Human Resource Development (MHRD) fellowship at the National Institute of Technology Karnataka (NITK), Surathkal. In its essence, my trajectory serves as a testament to an unwavering dedication to both education and research. This dedication is underlined by an ardent enthusiasm to contribute to the progression of knowledge and its tangible applications.

RESEARCH INTERESTS

- Slide Burnishing,
- Sustainable Manufacturing
- Cryogenics
- Laser Dressing
- Surface Integrity
- Sustainable Product Design

EDUCATION

- Ph.D.
Specialization- Innovative Manufacturing
Institute: National Institute of Technology Karnataka (NITK), Surathkal.
- M.Tech.
Specialization- Computer Integrated Manufacturing
Institute: Dayananda Sagar College of Engineering, Bengaluru (VTU).
- B.E.
Specialization- Mechanical Engineering
Institute: Vivekananda College of Engineering and Technology, Puttur (D.K) (VTU).

PUBLICATIONS

1. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2019. Effect of working parameters on the surface integrity in cryogenic diamond burnishing of 17-4 PH stainless steel with a novel diamond burnishing tool. *Journal of Manufacturing Processes*, 38, pp.564-571. (DOI: <https://doi.org/10.1016/j.jmapro.2019.01.051>). (**Elsevier, SCIE & Scopus, Q1, IF-6.2**).
2. Rao, C.M., **Sachin, B.**, Rao, S.S. and Herbert, M.A., 2021. Minimum Quantity Lubrication through the micro-hole textured PCD and PCBN inserts in the machining of the Ti-6Al-4V alloy. *Tribology International*, 153, p.106619. (DOI: <https://doi.org/10.1016/j.triboint.2020.106619>). (**Elsevier, SCI & Scopus, Q1, IF-6.2**).
3. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2020. Application of desirability approach to optimize the control factors in cryogenic diamond burnishing. *Arabian Journal for Science and Engineering*, 45, pp.1305-1317. (DOI: <https://doi.org/10.1007/s13369-019-04326-3>). (**Springer, SCIE & Scopus, Q1, IF-2.9**).
4. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2019. Selection of optimal process parameters in sustainable diamond burnishing of 17-4 PH stainless steel. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, pp.1-12. (DOI: <https://doi.org/10.1007/s40430-019-1726-7>). (**Springer, SCIE & Scopus, Q2, IF-2.2**).
5. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2019. Enhancement of surface integrity by cryogenic diamond burnishing toward the improved functional performance of the components. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41, pp.1-13. (DOI: <https://doi.org/10.1007/s40430-019-1918-1>). (**Springer, SCIE & Scopus, Q2, IF-2.2**).
6. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2019. Sustainable diamond burnishing of 17-4 PH stainless steel for enhanced surface integrity and product performance by using a novel modified tool. *Materials Research Express*, 6(4), p.046501. (DOI: 10.1088/2053-1591/aaf900). (**IOP, SCIE & Scopus, Q2, IF-2.3**).
7. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2018. Experimental evaluation of diamond burnishing for sustainable manufacturing. *Materials Research Express*, 5(10), p.106514. (DOI: 10.1088/2053-1591/aadb0a). (**IOP, SCIE & Scopus, Q2, IF-2.3**).
8. B a, P., P Shetty, B. **Sachin B** and Singh Yadav, S.P., 2022. Physical and mechanical properties, morphological behaviour of pineapple leaf fibre reinforced polyester resin composites. *Advances in Materials and Processing Technologies*, 8(1), pp.1147-1159. (DOI: <https://doi.org/10.1080/2374068X.2020.1853498>) (**Taylor & Francis, Scopus, Q2, IF-2.2**).
9. **Sachin, B.**, Rao, C.M., Naik, G.M. and Puneet, N.P., 2021. Influence of slide burnishing process on the surface characteristics of precipitation hardenable steel. *SN Applied Sciences*, 3, pp.1-13. (DOI: <https://doi.org/10.1007/s42452-021-04260-w>). (**Springer, Scopus, Q2, IF-2.6**).
10. Naik, G. M., Abhinaba, R., **Sachin, B.**, Narendranath, S., 2018. ANOM Optimization Studies on Wire Electric Discharge Turning Using Taguchi Experimental Design. *Journal of Material Sciences*, 6(3), pp.165-168. (DOI: 10.4172/2321-6212.1000229, e-ISSN: 2321-6212).

CONFERENCE PROCEEDINGS

1. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2018. Effect of cryogenic diamond burnishing on residual stress and microhardness of 17-4 PH stainless steel. *Materials Today: Proceedings*, 5(9), pp.18393-18399. (DOI: <https://doi.org/10.1016/j.matpr.2018.06.179>). (**Elsevier, Scopus**).
2. **Sachin, B.**, Narendranath, S. and Chakradhar, D., 2019, November. Analysis of surface hardness and surface roughness in diamond burnishing of 17-4 PH stainless steel. In *IOP conference series: materials science and engineering* (Vol. 577, No. 1, p. 012075). IOP Publishing. (DOI: [10.1088/1757-899X/577/1/012075](https://doi.org/10.1088/1757-899X/577/1/012075)). (**IOP, Scopus**).
3. Vishwas, C.J., Gajanan, M.N., **Sachin, B.**, Abhinaba, R., Puneet, N.P., Anjan, B.N. and Vinayak, N.K., 2019. Study on surface roughness in minimum quantity lubrication turning of Al-6082/SiC metal matrix composites. *Applied Mechanics and Materials*, 895, pp.127-133. (DOI: <https://doi.org/10.4028/www.scientific.net/AMM.895.127>). (**Scopus**).
4. Shyale, P., Shetty, M.H.N., Narayanappa, R.B., **Sachin, B.** and Subbanna, K.A., 2019, March. Study on extraction of excess heat from the fins of an engine cylinder to produce electricity using smart material. In *AIP Conference Proceedings* (Vol. 2080, No. 1). AIP Publishing. (DOI: <https://doi.org/10.1063/1.5092893>). (**AIP, Scopus**).
5. Vishwas, C.J., Girish, L.V., Naik, G.M., **Sachin, B.**, Roy, A., Prashanth, B.Y. and Badiger, R., 2018, June. Effect of Machining Parameters on Surface integrity during Dry Turning of AISI 410 martensitic stainless steel. In *IOP Conference Series: Materials Science and Engineering* (Vol. 376, No. 1, p. 012127). IOP Publishing. (DOI: [10.1088/1757-899X/376/1/012127](https://doi.org/10.1088/1757-899X/376/1/012127)). (**IOP, Scopus**).
6. Naik, G.M., **Sachin, B.**, Badiger, R.I. and Hebbale, A.M., 2021. Microstructure and mechanical properties of TiO₂ reinforced ZA22 metal matrix composite. *Materials Today: Proceedings*, 35, pp.303-307. (DOI: <https://doi.org/10.1016/j.matpr.2020.01.529>). (**Elsevier, Scopus**).
7. Pai, K.R., Hebbale, A.M., Vishwanatha, J.S. and **Sachin, B.**, 2021. Study of tribological properties on aluminium based hybrid composite developed through microwave energy. *Materials Today: Proceedings*, 44, pp.4245-4250. (DOI: <https://doi.org/10.1016/j.matpr.2020.10.540>). (**Elsevier, Scopus**).
8. Prasad, C.D., Lingappa, M.S., Joladarashi, S., Ramesh, M.R. and **Sachin, B.**, 2021. Characterization and sliding wear behavior of CoMoCrSi+ Flyash composite cladding processed by microwave irradiation. *Materials Today: Proceedings*, 46, pp.2387-2391. (DOI: <https://doi.org/10.1016/j.matpr.2021.01.156>). (**Elsevier, Scopus**).
9. Praveena, B.A., Kumar, S.V., Manjunath, H.N., **Sachin, B.**, Yadav, S.P.S., Lochan, B.R., Kumar, G.A. and Reddy, J.S., 2021. Investigation of moisture absorption and mechanical properties of natural fibre reinforced polymer hybrid composite. *Materials Today: Proceedings*, 45, pp.8219-8223. (DOI: <https://doi.org/10.1016/j.matpr.2021.04.254>). (**Elsevier, Scopus**).

CONFERENCE PROCEEDINGS

10. Anil, A.V., Vijayan, V., **Sachin, B.**, Rai, P.K. and Rao, M., 2021. Computer aided cooling curve analysis (CACCA) of ADC-12 alloy. *Materials Today: Proceedings*, 46, pp.2591-2595. (DOI: <https://doi.org/10.1016/j.matpr.2021.02.129>). (**Elsevier, Scopus**).
11. Roy, A., **Sachin, B.**, Raghavendra, T., Rao, C.M., Naik, G.M., Soni, H., Mashinini, P.M. and Narendranath, S., 2022. Optimizing machining responses of homologous TiNiCu shape memory alloys using hybrid ANN-GA approach. *Materials Today: Proceedings*, 62, pp.4402-4410. (DOI: <https://doi.org/10.1016/j.matpr.2022.04.890>). (**Elsevier, Scopus**).
12. Anas, S.M., Johnson, S., Jose, R., **Sachin, B.**, Govindarajan, S., Vijayan, V. and Karinka, S., 2022. Determining the solidification characteristics of Manganese bronze (MAB) alloy using computer-aided cooling curve analysis. *Materials Today: Proceedings*, 52, pp.2095-2101. (DOI: <https://doi.org/10.1016/j.matpr.2021.11.652>). (**Elsevier, Scopus**).

BOOK CHAPTER

1. Naik, G.M., **B, Sachin.**, Mallaiah, M., Badiger, R.I. and Sannayellappa, N., 2020. Effect of ECAE Die Angle on Microstructure Mechanical Properties and Corrosion Behavior of AZ80/91 Magnesium Alloys. In *Magnesium Alloys Structure and Properties*. IntechOpen. (DOI: [10.5772/intechopen.94150](https://doi.org/10.5772/intechopen.94150)). (**Web of Science**).
2. **Sachin, B.**, Rao, C.M., Naik, G.M., Durga Prasad, C., Hebbale, A.M., Vijeesh, V. and Rao, M., 2022. Minimum quantity lubrication and cryogenic for burnishing of difficult to cut material as a sustainable alternative. In *Sustainable Machining Strategies for Better Performance: Select Proceedings of SMSBP 2020* (pp. 61-69). Springer Singapore. (DOI: https://doi.org/10.1007/978-981-16-2278-6_6). (**Springer, Scopus**).

CONFERENCE

1. **Sachin, B.**, S. Narendranath., and D. Chakradhar. Optimization of cryogenic diamond burnishing process parameters on 17-4 PH stainless steel using Taguchi method. International conference on contemporary design and analysis of manufacturing and industrial engineering systems, 18-20th January 2018, National Institute of Technology, Trichy. (**Received Best paper award**).
2. **Sachin. B.**, Charitha. M. Rao. A Study on Surface Engineering – Laser Cladding. National Welding Seminar, KTPO, Bangalore, 9th February 2013.
3. **Sachin. B.**, Charitha. M. Rao. A Study on Recent Trends: Additive Manufacturing. National Conference on Advances in Mechanical Engineering, K S School of Engineering and Management, Bangalore, 12th November 2013.

4. **Sachin. B.**, Venkatesh. M. K., M. Chellamalai., Ugrasen. G., P. V. Shashi Kumar. Studies on Laser Dressed Super Abrasive Grinding Wheels. International Conference on Convergence of Science, Engineering and Management in Education and Research, Dayananda Sagar College of Engineering, Bangalore, 27th September 2013.
5. **Sachin. B.**, Venkatesh. M. K., M. Chellamalai., Ugrasen. G., P. V. Shashi Kumar. Optimization and Prediction of Laser Dressed Super Abrasive Grinding Wheels. National Level Technical Symposium Pratibimb, The National Institute of Engineering, Mysore, 31st October 2013.
6. Amal. M., Deepak. B., Gajanan. M. Naik., **Sachin. B.**, Ravindra. I. B., Ajith. M. H. Effect of TiO₂ on microstructure and mechanical properties of Zn-22Al-2.5Cu alloy based composite, iCold, Alvas Institute of Engineering and Technology, Moodbidri, Mangalore November 27-29, 2019.
7. **Sachin. B.**, Ugrasen. G. A Study on Wire Breakage in Wire EDM. Emerging Trends in Engineering and Technology, Jyothy Institute of Technology, Bangalore, 9th March 2012.
8. Aditya Arjun, Akshath T Pai, Bhavish Shetty, **Sachin B**, Ramesh Babu N, Gajanan M Naik, Charitha M Rao, Kiran S Aithal, Manjunath HN. "Impact Analysis of Knee Damper Assistant System with Fall Detection", International Conference on Emerging trends in Science and Engineering 2020, Shri Madhwa Vadiraja Institute of Technology and Management, Udupi, 10th and 11th July 2020.
9. Mahadevaprasad N, **Sachin B**. "Semi-Automated Inkjet Marking System with Lead Screw Actuation for Aerospace Components", International Conference on Robotics, Control, Automation and Artificial Intelligence, Manipal Institute of Technology, Manipal Academy of Higher Education (MAHE), Manipal, India, 12-14 October 2023.
10. Muthuraju T S, Likhith K S, Prashasth Rao, Monish Kumar K M, **Sachin B**. "Wildlife Intrusion Detection and Prevention in Farm Fields using IoT Technology", International Conference on Robotics, Control, Automation and Artificial Intelligence, Manipal Institute of Technology, Manipal Academy of Higher Education (MAHE), Manipal, India, 12-14 October 2023.
11. Nikhil P Sakhare, **Sachin B**. "Development of CNC Gantry Drilling Machine", International Conference on Robotics, Control, Automation and Artificial Intelligence, Manipal Institute of Technology, Manipal Academy of Higher Education (MAHE), Manipal, India, 12-14 October 2023.
12. Rahul N Murthy, Sagar N, Prashanth M S, Srinidhi Kumar G U, **Sachin B**. "Predictive Maintenance of Gearbox: A Cost-Effective IoT Approach for Remaining Useful Life Estimation", International Conference on Robotics, Control, Automation and Artificial Intelligence, Manipal Institute of Technology, Manipal Academy of Higher Education (MAHE), Manipal, India, 12-14 October 2023.

ACHIEVEMENTS & OTHER INFORMATION

1. Recognized as a **World Scientist** in the **AD Scientific Index's World Scientists Productivity Rankings for 2024**. Within NIE, I am honored to hold the prestigious **third position**.
2. Recognized with the **Best Paper Award** at CDAMIES 2018, hosted by the National Institute of Technology, Trichy.
3. The project titled "Detection and prevention of wild animals in farm field by the application of IoT" has received **sponsorship and recognition from the Karnataka State Council for Science and Technology in 2023, at the state level**.
4. My affiliation extends to the **Institute of Engineers**, India, where I proudly hold the esteemed position of an Associate Member.