Dr. Miriyala VeeraBhadraRao D.N.

Phd- Mechanical Engg, M.Tech (Mfg), BE(Prod'n), MBA-Mkt.

Fr.CRCE, Mumbai, University of Mumbai

I joined Fr. Conceicao Rodrigues College of Engineering, Bandra, Mumbai (INDIA) on 2nd January 2013 as Assistant Professor in Production Engineering and served there until 30 June 2021. Since 1st July 2021, I have been working in the Department of Mechanical Engineering. For over 13 years, I have contributed to this Esteemed Institution through teaching, research, and academic development.

*I am an active researcher in the field of **sustainable manufacturing processes** with a focus on **machining**, **welding**, and **optimization techniques**, leveraging tools like Taguchi methods, DOE, MQL, and nanofluids.*

A) Professional Interests:

- ✓ Actively engage in industry visits within the manufacturing sector to stay abreast of current practices and foster academic-industry linkages. Regularly participate in and organize workshops and career development programs for personal growth and student enrichment through platforms such as IIIExCRCE and FSAIxCRCE.
- ✓ Serving as the Team Advisor for SAE BAJA (Team ABADHA) for the past three years, continuing to mentor students in design, innovation, and competitive project execution.
- ✓ Faculty Advisor for student chapters IIIExCRCE & FSAIxCRCE, supporting co-curricular and extracurricular initiatives that enhance technical and leadership skills among students.
- ✓ Former Program Officer of the NSS (Fr. CRCE) Student Chapter for a period of two years, contributing to community service and social outreach initiatives.
- ✓ Actively participate in creative and social activities, including banner and poster design, technical drawings, and coordinating events such as blood donation drives.

B) Academic Qualifications (Graduation Onwards)

I have successfully completed the following academic qualifications:

1. **Doctor of Philosophy (Ph.D**.) in Mechanical Engineering from the University of Mumbai, awarded in July 2024, upon successful completion of the research work.
2. **Master of Technology (M.Tech)** in Manufacturing Engineering from Dr. Babasaheb Ambedkar Technological University (BATU), Lonere, Raigad, completed in 2011 with a CGPA of 7.92 out of 10, securing First Class with Distinction.
3. **Bachelor of Engineering (B.E.)** in Production Engineering from Nagpur University, completed in 1998 with 62.48% marks, securing First Class.
4. **Master of Business Administration (MBA)** in Marketing from Yashwantrao Chavan Maharashtra Open University (YCMOU), Nashik through Birla College, Kalyan (W) as the study centre, completed during 2016–2017 with 60% marks, achieving First Class.

C) Previous Work Experience

I have gained diverse academic and industrial experience across various roles, detailed as follows:

1. Trainee Engineer at Elemech Precision Industries, Dombivli (E) from 27th May 1996 to 28th June 1996 under a temporary appointment. This role involved internship training with practical exposure to precision engineering processes and shop floor operations.
2. Site Engineer at Awadh Fabricators (CCCL Project – Dahej, Gujarat) from October 1998 to February 1999. In this regular position, I was responsible for supervising fabrication work, including the construction of stainless steel (S.S.) tanks and silos at an industrial project site.
3. Inspection & Fabrication Engineer at Novatech Process Equipments Pvt. Ltd., Thane from 3rd April 1999 to 11th May 2000, where I handled fabrication and quality inspection of chemical process equipment made from stainless steel (S.S.) and mild steel (M.S.), ensuring compliance with industry standards.
4. Lecturer and In-Charge Head of Department (Mechanical Engineering) at S. H. Jondhale Polytechnic, Dombivli (W) from July 2000 to February 2006. In this academic role, I was involved in teaching diploma-level students and managing departmental academic and administrative responsibilities.
5. Lecturer in Production Engineering at S. S. Jondhale College of Engineering, Dombivli (E) from March 2006 to November 2012. I taught core subjects in Production Engineering at the undergraduate level and mentored students in academic projects and technical development.

D) Research Experience :

I have successfully guided and completed the postgraduate research work of four M.E. (Mechanical Engineering) students in the areas of manufacturing processes, optimization, and product development:

1. Mr. Manoj Ghag (2014) – Completed a research project on Spot Welding as part of the M.E. program in Mechanical Engineering with specialization in CAD/CAM & Robotics.
2. Mr. Imran Shaikh (2014) – Carried out research on Optimization of the Tungsten Inert Gas (TIG) Welding Process.
3. Mr. Hiraman Sikdar (2020) – Completed research focused on the Optimization of Turning Parameters for Heat-Treated Steels under Minimum Quantity Lubrication (MQL) Conditions.
4. Mr. Siddhesh Bhopi (2022) – Worked on the Design and Development of an Electronic Stethoscope as part of a product development research initiative.

E) Research Publications

1. A Review on Optimizing Process Parameters for TIG Welding using Taguchi Method & Grey Relational Analysis, authored by I.A. Shaikh and M.V. Rao, published in International Journal of Science and Research, Vol. 14(6), pp. 2449–2452, 2013.
2. Experimental Performance Evaluation of Mist Cooling Using Biodegradable Coconut Oil in Turning of EN24 Steel in Minimization of Tool Wear, Surface Roughness, and Chip Thickness, authored by M. VeeraBhadraRao, B.T. Patil, V.A. Shaikh, and D.S.S. Sudhakar, published in Recent Advances in Mechanical Infrastructure: Proceedings of ICRAM, pp. 3–12, 2019.
3. Recent Trends in the Effective Utilization of Minimum Quantity Lubrication (MQL) in Turning Low Carbon Steels, authored by M. VeeraBhadraRao, V.A. Shaikh, and B.T. Patil, published in Industrial Engineering Journal, Vol. 11(2), pp. 29–33, 2018.
4. Process Control & Inspection Using 5S Method and Computation with Pareto Analysis, authored by J. Beno, M.V.B. Rao, J. Beno, and S.K. Das, presented at the 2021 International Conference on Advances in Computing, Communication, and Control, 2021.
5. Evaluation of Tensile Strength and Distortion Control in GTAW Weldment of AA 6061 by Taguchi and Grey Relational Approach, authored by I.A. Shaikh and M.V. Rao, Fr. Conceicao Rodrigues College of Engineering, 2014.
6. Review on Optimization Techniques such as DOE and GRA Used for Process Parameters of Resistance Spot Welding, authored by M.J. Ghag and M.V. Rao, published in International Journal of Science and Research, Vol. 14(6), ISSN 2319–7064, 2013.
7. Investigations of Surface Roughness and Temperatures in Vegetable Oil-based n-MQL Turning of AISI 4340 Steel, authored by M.V.B. Rao, B.T. Patil, V.A. Shaikh, and D.S.S. Sudhakar, published in Journal of Engineering, Project, and Production Management (EPPM), Vol. 14(1), pp. 1–10, 2023.
8. Contribution of Factors such as Machining Parameters, MQL Nozzle Orientation (Angle & Distance), and MQL Nano-Fluid Type on Surface Finish of Turned Steel Work-Pieces Using DOE, authored by M. Veerabhadrarao, B.T. Patil, V.A. Shaikh, and D.S.S. Sudhakar, published in Materials Science Forum, Vol. 1019, pp. 181–193, 2021.
9. Identifying Optimization Methods Using MQL and Cryo-Treatments for Turning Inconel Alloy with Nanofluids, authored by S. Bukane, V.A. Shaikh, and M. VeeraBhadraRao, published in Journal of Physics: Conference Series, Vol. 1706(1), Article ID 012219, 2020.
10. Study on Rectification of Issues Faced by Ultrasonic Welding of Medical “e-Stethoscope” by Adhesive Bonding Technique, authored by S.C. Bhopi, V.B.R. Miriyala, S.V. Parab, A.S. Haldankar, and S.P. Pandey, published in IOP Conference Series: Materials Science and Engineering, Vol. 872(1), Article ID 012088, 2020.
11. Turned AISI 4340 Heat-Treated Steel Surface Quality Investigations in Dry and MQL Cooling Conditions, authored by H.N. Sikdar, M.V.B. Rao, B.T. Patil, V.A. Shaikh, and D.S.S. Sudhakar, published in IOP Conference Series: Materials Science and Engineering, Vol. 872(1), Article ID 012090, 2020.
12. Aligning Ocean Conservation with SDG: Managing Waste Along Mumbai’s Coastline in India, authored by D.S.S.R. Dr. Miriyala VeeraBhadraRao, presented at ICCC 2025 (Climate Change) Conference, pp. 201–205, 2025.
13. Studies and Practice of Geometrical Test Procedures & Reconditioning of CNC Lathe

Machine Tool, authored by J. Beno, M.V.B. Rao, and S.K. Das, published in Journal of Physics: Conference Series, Vol. 2070(1), Article ID 012228, 2021.

14. A105 Work-Material Turning Experimentation Using L9 Orthogonal Array Runs with Dry, MQL and Nano-Al_2O_3 Assisted MQL Machining Conditions, authored by S. Shaikh, V.A. Shaikh, M.V.B. Rao, and B.T. Patil, published in IOP Conference Series: Materials Science and Engineering, Vol. 1070(1), Article ID 012131, 2021.
15. Optimization of the Process Parameters in Resistance Spot Welding of IS410:2006 Grade CuZn40 Brass Material Using Taguchi Method, authored by M.J. Ghag and M.V.B. Rao, published in International Journal of Scientific Engineering and Research, Vol. 3(6), ISSN 2347–3878, 2014.

F) Faculty Development Programs / Training Attended

1. Successfully completed a One-Week FDP on Research Methodology in Engineering and Technology organized by AICTE–ISTE, held from 14th May to 18th May 2018.
2. Completed a 12-Week NPTEL–AICTE certified course on Engineering Metrology conducted between July and October 2018.
3. Attended a One-Week FDP on Research, Funding Projects, and Intellectual Property Rights (IPR) organized by Institution's Innovation Council (IIC) and IETE, from 7th to 10th May 2020.
4. Participated in a One-Week FDP on Data Science, held from 26th May to 30th May 2020.
5. Attended a One-Week FDP on Exploring Dimensions of Innovation, Incubation, and Emerging Technologies to Embrace Post-COVID Changes, held from 8th June to 12th June 2020.
6. Participated in a One-Week FDP on Disruptive Technologies of Industry 4.0, conducted from 30th May to 3rd June 2020.
7. Successfully completed a One-Week FDP on Design of Experiments for Research, organized by ISTE, from 26th July to 30th July 2021.
8. Attended a One-Week FDP on Excellence in Higher Education: Perspective of National Education Policy (NEP), organized by SAE, from 18th December to 22nd December 2021.
9. Participated in a One-Week FDP on Interactive E-Content Creation, held from 8th May to 12th May 2020.
10. Successfully completed a One-Week FDP on Research Methodology: Techniques, Analysis, and Presentation, organized by ScrollWell, from 15th to 21st January 2024.
11. Attended a One-Week Faculty Patent Development Program, organized by Technotreon Innovation Academy, from 31st July to 5th August 2023.
12. Recently completed a One-Week FDP on Generative AI for Effective Teaching, organized by ScrollWell, held from 6th January to 11th January 2025.

G) Certification Courses / Faculty Development Programs (FDPs) Completed

1. Successfully completed an 8-week NPTEL course on Machine Design Practices - II during August – October 2025, with a score of 68%.
2. Successfully completed an 8-week NPTEL course on Sustainability through Green Manufacturing Systems: An Applied Approach during August – October 2017, with a score of 78%, earning an Elite certificate.

3. Completed an 8-week NPTEL course on Introduction to Machining and Machining Fluids during February – March 2018, with a score of 85%, achieving Elite certification and recognized as a Topper.
4. Successfully completed a 12-week NPTEL course on Engineering Metrology from July to October 2018, scoring 88%, awarded Elite status and ranked in the Top 5%.
5. Attended a One-Week FDP on Electric Vehicles, organized by AICTE–ATAL Academy, held from 2nd November to 6th November 2020, and successfully passed the program.
6. Participated in a One-Week FDP on Micro-Electro Mechanical Systems, conducted by AICTE–ATAL Academy, from 23rd November to 27th November 2020, and was declared passed.
7. Completed a One-Week FDP on Navigating Sustainable Development Goals (SDGs): A Guide to Sustainable Achievement, organized by AICTE–ATAL Academy, from 20th January to 25th January 2025, with a pass grade.

H) Industry Training and Technical Exposure

1. Completed a one-week industrial training on ProEngineer Software at Rolta India Ltd., Rolta Centre II, SEEPZ, Mumbai, from 23rd June to 27th June 2003.
2. Attended a one-week training program on PLC – SIMATIC S7-300 at Siemens Ltd., TSDC Division, Kalwa, from 27th December to 31st December 2004.
3. Participated in a one-day workshop on Press Tools conducted by Larsen & Toubro (L&T), Madh Campus – Corporate Technology & Engineering Academy, on 13th July 2005.
4. Successfully completed a one-week Short-Term Training Program (STTP) on Advanced Welding Technology at Vishwakarma Institute of Information Technology (VIIT), Kondhwa, held from 7th to 11th December 2015.
5. Took part in a one-day sustainability tour organized at Govardhan Eco-Village, Wada, on 29th July 2018.
6. Completed a two-day hands-on training on Printed Circuit Board (PCB) Design and Soldering Techniques at Fr. Conceicao Rodrigues College of Engineering (Fr. CRCE), Bandra, in September 2019.
7. Participated in a three-day industrial field visit at Indian Railways – Matunga Workshop, from 28th to 30th January 2020, for practical exposure to large-scale railway maintenance operations.

I) Other Relevant Contributions and Credentials

1. Serving as the Faculty Advisor for Team ABADHA (SAE BAJA) since July 2019, with active annual SAE Membership, guiding students in automotive design and innovation competitions.
2. Recognized as a Senior Member of the Indian Institution of Industrial Engineering (IIIE), Belapur Chapter. Under my mentorship, IIIExCRCE secured the 3rd Prize – Certificate of Appreciation for Outstanding Innovation Activities under the Institution's Innovation Council (IIC) on 30th January 2020, in the presence of Dr. Bhushan Patil (HoD, Mechanical) and Dr. Srija Unnikrishnan (Principal).
3. Served as the Program Coordinator for NSS at Fr. CRCE, Bandra, for a period of two years

(2014–2015), facilitating social outreach and student engagement initiatives.

4. Achieved 3rd place in the National Essay Competition organized by IQAC, Pillai College of Engineering in June 2020, for a thoughtful contribution on a socially relevant topic.
5. Actively participated in blood donation drives organized at Fr. CRCE in the years 2022, 2023, and 2024, demonstrating commitment to health and community service.
6. Completed participation in 12 marathon events from 2015 to date, across various race categories including 3 km, 5 km, 10 km, and 21 km, promoting personal health and wellness.
7. Achieved Design Patent Grant for an original innovation titled "Nozzle for Turning Operation", registered under Design No. 379302 – 001, published and granted on 14th February 2023.
8. Under my guidance, the student chapter IIIExCRCE was conferred the Technical Award (Crescendo) during the Annual Gathering 2023, recognizing student excellence in technical innovation.
9. Successfully published 15 conference papers, including 7 in Scopus-indexed journals/conferences.
10. Active professional memberships in five reputed organizations:
    ISTE (ID: 40493), IIIE (ID: 10600(21)) , CEGR (ID: LT411), FSAI (ID: 2066520), SAE (ID: 7190510482)
11. Conducted a specialized training program for IOCL staff on Pneumatics at Fr. CRCE, held on 15th–16th June 2023, enhancing industry-academia collaboration and professional development.

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