Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Dr. Hemantkumar Namdeorao Warhatkar

Qualifications: M. Tech, Ph. D (IIT Delhi)

Department: Department of Mechanical Engineering

Research Area: Design of Mechanical System, Dynamics, Injury Biomechanics

Address: Professor and Head, Department of Mechanical Engineering

Dr. Babasaheb Ambedkar Technological University, Lonere

Cell Phone No & Email ID: 9403316374 **Email : hnwarhatkar@dbatu.ac.in**

Experience : 33 years

Publications: https://scholar.google.com/citations?user=g2s8POwAAAAJ&hl=en

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Vikas G. Sargade

Qualifications: M. Tech. (IIT Madras), PhD (IIT Kharagpur)

Department: Mechanical Engg.

Research Area: Manufacturing Engineering, Machining of exotic materials, Cutting tool coatings, Surface Engineering.

Address: Department of Mechanical Engineering, DBATU Lonere

Cell Phone No & Email ID: 9730341788, vgsargade@dbatu.ac.in

Experience : 26 years

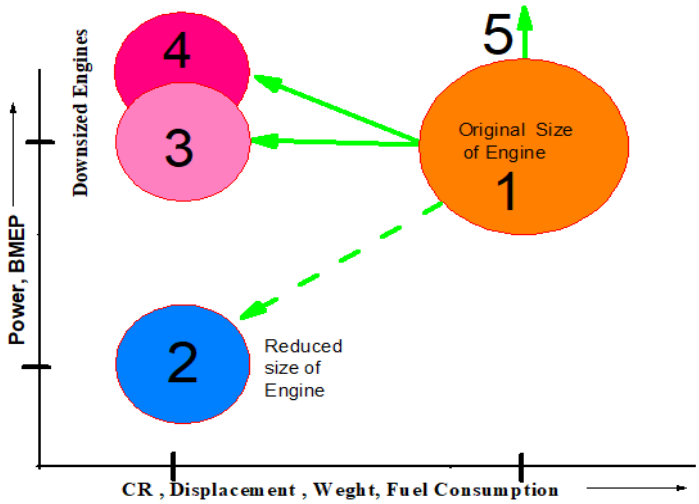
Publications: International Journals: 29

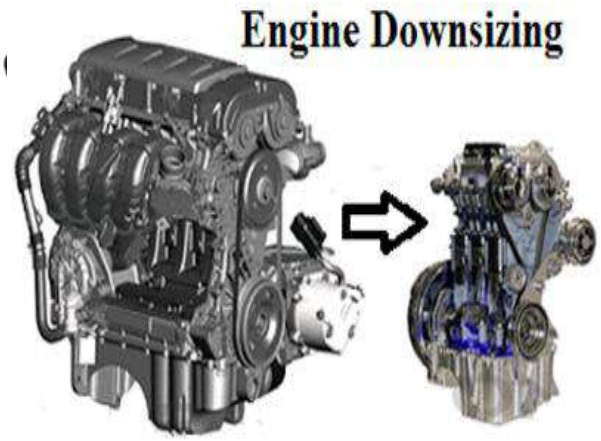
International Conferences: 16

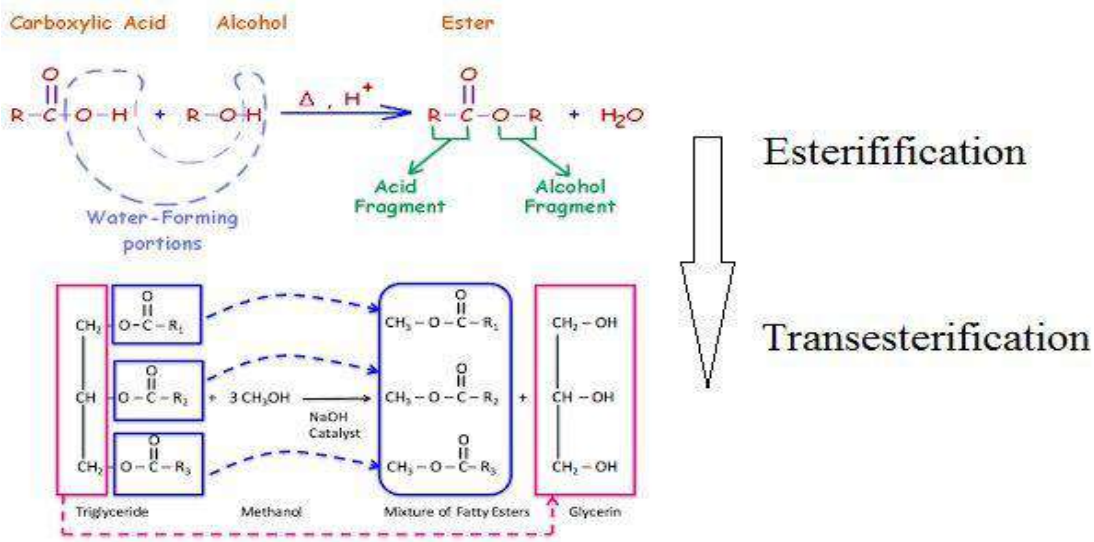
Dr. Ganesh S. Warkhade, Associate Professor MED

Research Area: Hybrid Air Conditioning, Alternative fuels, IC Engine downsizing and simulation, Latent heat energy storage

Research Plan:







Sp. Weight ⇩ for PD (3-15%), LB10 (1-8%), LB20 (1-9%), LB30 (5-13%).

84

Further Research plan:

As we know biodiesel is not the popular option in spite of biodegradable, renewable and environmental friendly option for the alternative source of fuel. The presence of around 11% of oxygen in the biodiesel makes it unpopular due to lower energy content and higher viscosity. This major hurdle in the research of biodiesel can be extended by carrying out open ended research. This research could be by devising the feasible means for removing the oxygen molecules present in the biodiesel through new economical methods.

R- C - O - R ⟹ HC (Hydrocarbons)
‖ Process
O

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Dr. Sudershan B. Gadwal

Qualifications: **M.Tech. Ph.D (VTU, Belagavi)**

Department: Department of Mechanical Engineering

Research Area: Sustainable Energy, alternative energy

Address: A.G. Patil Institute of Technology , Solapur.

Cell Phone No & Email ID:9130646448 **Email :drsbagadwal@gmail.com**

Experience : 22 years

Publications: https://scholar.google.com/citations?user=lxMrLSwAAAAJ&hl=en&authuser=2

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Suresh Ramchandra Nipanikar

Date of Birth: 15/10/1979

Qualifications: Ph.D. (Mechanical Engineering), M.E. (Mechanical-Production) B.E. Production,

Domain and Department: Manufacturing Engineering; Mechanical Engineering

Research Area: Manufacturing Engineering

Organization/Institute: Karmaveer Bhaurao Patil College of Engineering, Satara

Address: "Sahkar Mandir" f-15,6 Ajinkya Colony, Satara 415001

Cell Phone No & Email ID: 8600004314; suresh.nipanikar@kbpcoes.edu.in

No of M. Tech & PhD Students Completed & Ongoing:

M.Tech Guided: 03 Ongoing: 03

Ph.D. Guided: 00 Ongoing: 00

Publications in Scopus/SCI Journals:
https://scholar.google.com/citations?user=rcUTWusAAAAJ&hl=en&oi=ao

Summary of Research Domain

- Machining of Difficult to Cut Materials
- Sustainable Manufacturing
- Optimization of Process Parameters for the Advanced Machining Processes
- Optimization by Evolutionary algorithms for the Advanced Machining Processes
- Finite Element Analysis of Machining Processes
- Statistical Analysis of Advanced Machining Processes

Dr. Suresh Ramchandra Nipanikar

Name & Sign

Dr Shriniwas S Metan

MS Mechatronics FH Aachen University Germany

PhD Mechanical NITK Surathkal

Research Arears

1. Mechanical Engineering
2. Production Engineering
3. Mechatronics
4. Solar Domain

One Page Research Profile

Dr. B. K. Sonage

Current Position: Dr. B. K. Sonage, Professor and Principal, Nagesh Karajagi Orchid College of Engineering & Technology, Solapur.

ORCID ID : http://orcid.org/0000-0002-6106-1355

Google Scholar: https://scholar.google.com/citations?user=bVCFHsgAAAAJ&hl=en

Educational Background:

- B.Tech in Mechanical Engineering – Government College of Engineering, Karad.
- M.Tech in Power Engineering – Walchand College of Engineering, Sangli.
- Ph.D. – National Institute of Technology Karnataka (NITK), Surathkal.

Research Expertise:

- Heat transfer enhancement techniques.
- Nanofluid technology with a focus on zinc oxide-based nanofluids.
- Experimental thermal system design and optimization.
- Solar Energy and Biogas
- Energy Audit and Management

Publications & Recognition:

- Multiple peer-reviewed publications in reputed journals and conferences.
- Two patents granted in the area of thermal engineering
- Recipient of the **Best Paper Award** from the Korean Society of Mechanical Engineers (KSME), 2015.

Current Research:

1. **Funded Research Project:** Received funding from DBATU VC RPS for the project titled *"Smart Building Technologies for Decarbonization and to Enhance Energy Efficiency in Buildings."*

2. Biogas generation from agrowaste funded by Maharashtra Pollution Control Board, Mumbai

3. Solar water purifier for rural masses funded by Dassault Systems, Pune

4. **Ph.D. Supervision:** Guiding one Ph.D. scholar on the topic *"Energy Efficiency in Building Envelope and Windows The* research explores the thermal performance of window and envelope systems under varying climatic conditions. It involves simulation tools and experimental validation to assess energy savings potential. Focus areas include glazing types, coatings, insulation materials, and daylight integration. The aim is to develop adaptive solutions for Indian building standards and climate zones. This work contributes to sustainable building design and energy policy development.

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Prof. (Dr.) Shete Hanmant Virbhadra

Date of Birth: 1st June 1976

Qualifications: **Ph.D.-**Mechanical Engineering

Domain and Department: Mechanical Engineering

Research Area: Manufacturing, Composite materials

Organization/Institute: Aravind Gavali College of Engineering, Satara

Address: Trimurti Colony, A/P: Nave Pargaon, Tal: Hatkanagale, Dist: Kolhapur, Pin: 416113

State: Maharashtra, India

Cell Phone No & Email ID: +91 9823925440; **Email:** sheteaditya@yahoo.co.in

No of M. Tech & PhD Students Completed & Ongoing:

M. Tech Students Completed: 26; M. Tech Students Ongoing: 03

PhD Students Completed: 00; PhD Students Ongoing: 00

Publications in Scopus/SCI Journals only (Attach as hyperlink):

1. Publications in Scopus/SCI Journals:
https://docs.google.com/document/d/10CrXAulPHM9TAHcDQELhCFRJSKakwqdz/edit

2. Publications in peer reviewed Journals:
https://docs.google.com/document/d/15fzWK2CwXOoxEoRjq8avwjTJAWx9GObp/edit

Summary of Research Domain:

1. Research area:

-Manufacturing: Casting, Machining, Modeling & optimization.

-Composite materials: Preparation, prototyping & Testing, Characterizations.

2. Publications in Scopus/SCI Journals: 09nos.

3. Publication in International Peer Reviewed Journals: 08 nos.

2. One Utility patent on composite materials is published and under examination phase. One design patent related to manufacturing area is registered and waiting for publication.

3. One e book on research work is published at international level.

Shete Hanmant Virbhadra

Name & Sign

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: HANMANT VIRBHADRA SHETE

Date of Birth: 1/06/1976

Qualifications: PH.D.in mechanical Engineeering

Domain and Department: Mechanical Engineering

Research Area: MANUFACTURING, MACHINING , MATERIAL CHARACTERISATION

Organization/Institute: ARVIND GAVALI COLLEGE OF ENGINEERING, SATARA

Address: NAVE PARGAON, TAL:- HATKANGLE, KOLHAPUR, 416113

Cell Phone No & Email ID: 9823925440/ sheteaditya@yahoo.co.in

No of M. Tech & PhD Students Completed & Ongoing: M.-tech: 30/ ph.d.-00

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://scholar.google.com/citations?hl=en&user=PWOh6w4AAAAJ

Orchid- https://orcid.org/0000-0001-5758-472X

Summary of Research Domain:

Hanmant Shete has completed Ph.D. from Vishveshwary Technological University, Belgaum, Karnataka, India. He is currently working as a Professor and Dean student affairs at Aravind Gavali College of Engineering, Satara, Maharashtra, India. He has 26 years of teaching experience at undergraduate and post-graduate courses in Mechanical Engineering. His research areas of interest are high pressure coolant machining, modeling and optimization and guiding M.Tech., Ph.D. students. He has published more than 18 articles in international refereed journals and has fetched grants from AICTE, New Delhi for execution of various academic and research activities. He has published a book on Control Engineering subject of Mechanical Engineering course, and an ebook titled as High Pressure Coolant Machining: Scope and Optimization, Eliva press, Maldova, Europe. He is active member of Asian Council of Science Editors, Mentor Board of innovation and incubation (DBATU Lonere), and actively engaged as a reviewer for different renowned international journals.

Name & Sign

Dr. H.V. Shete

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Vishal Vasantrao Patil

Qualifications: M.E. (Heat Power); PhD (Mechanical);

Post Doctorate: Indian Institute of Technology (IIT) Bombay

Department: Mechanical Engineering

Research Area: Alternative fuels; Internal combustion engines; Combustion; Refrigeration and air-conditioning

Address: Department of Mechanical Engineering, Sharad Institute of Technology, College of Engineering, Yadrav, Ichalkarnaji

Cell Phone No & Email ID: 9552434600, vishalpatil@sitcoe.org.in

Experience: 15 years

Publications: International Journals: 19

International Conferences: 11

Google Scholar ID: BKzHrz0AAAAJ

SCOPUS ID: 57014434800

Web of Science: AHC-2907-2022

ORCID: 0000-0003-2539-0570

Dr. Vishal Vasantrao Patil

SITCOE, Yadrav

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Prof.(Dr.) Sanjeev D Suryawanshi

Date of Birth:01/06/1967

Qualifications: PhD. Mechanical

Domain and Department: HVAC, Solar thermal Energy, Mechanical

Research Area: Heat Transfer. HVAC, Solar Thermal Energy Application

Organization/Institute: SSVPSs B S Deore, College of Engg. Dhule

Address: Plot No. 17," MAEY", Anmol Nagar Deopur Dhule 424002

Cell Phone No & Email ID:9423080717, Sanjeev.suryawanshi@ssvpsengg.ac.in

No of M. Tech & PhD Students Completed & Ongoing:1 PhD awarded,4 ongoing

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://www.philstat.org/special_issue/index.php/MSEA/article/view/415

HVAC

Sustainable Ventilation in which reducing heat gain from roof either of RCC or Sheet Metal. Using reflective bubble sheet as a false ceiling. Design the opening in this false ceiling as per air change requirement in different building. For air change either solar chimney or turbo-ventilators are used. Vented cavity wall further reduces the heat gain. Different I value material is used for construction on cavity wall.

Solar thermal energy applications

1. Solar cooker (Patented in India 424247)
2. Waste to best solar water heater (Patented in India 455451)
3. hemispherical solar water heater (Patented in US PCT Pub No. WO2018/122870,China and India378587)
4. Modular solar dryer (Patented in India 530948 filed in US Malesia, Vietnam Indonesia)
5. Solar distillation (Patent published in India)
6. Solar cooker with heat storage, (Patent published in India)

Other area

7. Pedal operated reciprocating positive displacement pump (Patented in India 541810)
8. Vehicle safety (Patent published in India)
9. Multipurpose Cooling Apparatus (Patented in India, 356049)

Name & Sign

Prof (Dr.) Sanjeev D. Suryawanshi

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr Khadtare Avinash Namdev

Date of Birth: 08 November 1985

Qualifications: PhD

Domain and Department: Manufacturing and Mechanical Engineering

Research Area: Micro Machining, Sustainable Machining

Organization/Institute: Arvind Gavali College of Engineering Satara

Address: Gat no 247 Panmalewadi Po Varye Tal and Dist: Satara

Cell Phone No & Email ID:9665599467 avinash.khadtare@agce.edu.in

No of M. Tech & PhD Students Completed & Ongoing: 02 M Tech & Zero (0) PhD

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://www.sciencedirect.com/science/article/abs/pii/S0141635920302130

https://www.tandfonline.com/doi/abs/10.1080/10426914.2020.1740253

https://link.springer.com/article/10.1007/s12541-023-00909-1

https://www.worldscientific.com/doi/abs/10.1142/S021968671950032X

https://www.inderscienceonline.com/doi/abs/10.1504/IJMMM.2023.133386

https://ijmmt.ro/vol13no12021/15_Bhushan_Nikam.pdf

https://doi.org/10.52783/cana.v31.558

https://asmedigitalcollection.asme.org/IMECE/proceedings- abstract/IMECE2021/V02BT02A036/1132460

https://link.springer.com/chapter/10.1007/978-3-031-34644-6_60

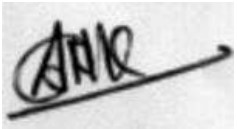
https://www.sae.org/publications/technical-papers/content/05-19-01-0007/

Summary of Research Domain

Aero Engine Components are made of high strength material like Inconel superalloy due to their physical properties. However, machining of Inconel superalloy is challenging because its mechanical and physical properties. In addition, chip formation during the machining are difficulty due to strain hardening properties. Also, the higher strength of IN 718 generates higher thrust forces and higher rapid tool wear during drilling which subsequently reduces drill life. Therefore, in my research domain improve the machinability by using coolant, change the tool geometry and advance coating.

In addition to that authors worked on new material preparation and improvement of machinability of material by using different cooling technique such as MQL.

Also, currently collaborative worked on Some studies on Micro drilling of CFRP-TiAl stacked.



Dr Khadtare Avinash N

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr Khadtare Avinash Namdev

Date of Birth: 08 November 1985

Qualifications: PhD

Domain and Department: Manufacturing and Mechanical Engineering

Research Area: Micro Machining, Sustainable Machining

Organization/Institute: Arvind Gavali College of Engineering Satara

Address: Gat no 247 Panmalewadi Po Varye Tal and Dist: Satara

Cell Phone No & Email ID:9665599467 avinash.khadtare@agce.edu.in

No of M. Tech & PhD Students Completed & Ongoing: 02 M Tech

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://www.sciencedirect.com/science/article/abs/pii/S0141635920302130

https://www.tandfonline.com/doi/abs/10.1080/10426914.2020.1740253

https://link.springer.com/article/10.1007/s12541-023-00909-1

https://www.worldscientific.com/doi/abs/10.1142/S021968671950032X

https://www.inderscienceonline.com/doi/abs/10.1504/IJMMM.2023.133386

https://ijmmt.ro/vol13no12021/15_Bhushan_Nikam.pdf

https://doi.org/10.52783/cana.v31.558

https://asmedigitalcollection.asme.org/IMECE/proceedings-abstract/IMECE2021/V02BT02A036/1132460

https://link.springer.com/chapter/10.1007/978-3-031-34644-6_60

Summary of Research Domain

Aero Engine Components are made of high strength material like Inconel superalloy due to their physical properties. However, machining of Inconel superalloy is challenging because its mechanical and physical properties. In addition, chip formation during the machining are difficulty due to strain hardening properties. Also, the higher strength of IN 718 generates higher thrust forces and higher rapid tool wear during drilling which subsequently reduces drill life. Therefore, in my research domain improve the machinability by using coolant, change the tool geometry and advance coating.

Dr Khadtare Avinash N

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Deepakkumar Himmatrao Patil

Date of Birth: 02/09/1985

Qualifications: PhD

Domain and Department: Mechanical Engineering

Research Area: Metal cutting, Photochemical Machining

Organization/Institute:CSMSS Chh. Shahu College of Engineering

Address: Kanchanwadi, Chhatrapati Sambhajinagar, Maharashtra

Cell Phone No & Email ID: 9529461603 & deepakpatil285@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: M.Tech-02 and PhD- 01

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://www.scopus.com/authid/detail.uri?authorId=55829878700

https://scholar.google.com/citations?user=rTVz4OAAAAAJ&hl=en

Summary of Research Domain

The research focuses predominantly on advanced manufacturing processes, with a strong emphasis on photochemical machining (PCM) and hard turning of difficult-to-machine alloys like AISI 4340 steel and Monel 400. Investigations cover how machining parameters, etchants ($FeCl_3$ and $CuCl_2$), grain orientation, and cutting environments influence surface quality, dimensional accuracy, and material removal mechanisms. There is also notable work on surface texturing, microchannel fabrication, and tool performance analysis using coated inserts in precision machining contexts. Recently, the domain has expanded to include machine learning and deep learning applications in precision agriculture for plant disease detection. The research blends experimental manufacturing, material science, and emerging computational techniques, offering contributions to both conventional and modern manufacturing technologies.

Name & Sign

Deepakkumar Himmatrao Patil

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Jain Prashant Harishchandra
Date of Birth: 30/06/1975
Qualifications: D.M.E., B.E.(Production), M.E.(Mechanical-Design), Ph.D. (Mechanical Engineering)
Domain and Department: Mechanical Engineering
Research Area: Vibration analysis, fault diagnosis, condition monitoring, mathematical modeling, finite element analysis, Design engineering.
Organization/Institute: T.P.C.T's College of Engineering, Osmanabad
Address: T.P.C.T's College of Engineering, Solapur road, Osmanabad. Pin 410501
Cell Phone No&Email ID: Mobile: 9890585235, Email: phjain30@rediffmail.com
No of M. Tech & PhD Students Completed & Ongoing:

M.Tech. completed: 24, M.Tech. ongoing: 4,
Ph.D. completed: 0, Ph.D. ongoing: 0

Publications in Scopus/SCI Journals only (Attach as hyperlink): 07

1. https://doi.org/10.1115/1.4062689
2. https://doi.org/10.1177/09574565241243391
3. https://doi.org/10.1007/978-981-97-0918-2_38
4. https://doi.org/10.1016/j.matpr.2022.09.093
5. https://doi.org/10.19101/IJATEE.2021.875416
6. https://doi.org/10.14445/22315381/IJETT-V70I1P237
7. https://doi.org/10.1007/s40032-024-01132-1

Summary of Research Domain

Research Area Profile: Vibration Analysis and Fault Diagnosis of Rotating Machinery with Emphasis on Mathematical Modeling and FEA of Bearing System.

My research area focuses on using Vibration Signal Analysis (VSA) for the detection and diagnosis of faults in rotating machinery, particularly rolling element bearings (REBs) and rotor-bearing systems. VSA is a primary method for condition monitoring.

The approach utilises mainly Time domain and frequency domain techniques. Research investigates the influence of factors like internal radial clearance, number of balls, rotor speed, radial load, and different defect types and sizes on vibration responses. Methodologies combine mathematical modelling (often non-linear dynamic models incorporating Hertzian contact theory), simulation (using software like COMSOL Multiphysics and MATLAB), and experimental studies using real vibration data, including public datasets like MFPT and CWRU. Comparisons are made between different defect modelling approaches.

The goal is to advance the understanding and application of VSA techniques for fault diagnosis, increasingly augmented by AI/ML, for comprehensive fault diagnosis in rotating machinery, providing valuable support for researchers and maintenance professionals.

Jain

Name & Sign
Dr. Jain Prashant Harishchandra

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Siddharth Kawduji Undirwade

Qualifications: Ph. D. Mechanical Engg., M. E. Mechanical Design, B. E. Mech.

Department: Mechanical Engineering

Research Area: Mechanical Engineering Design, Optimization, Reliability Engineering, Rural and Agriculture based Machineries, Mathematical Modelling etc.

Address: P. E. S. College of Engineering, Nagsenvana, Near Panchakki, Dr. B.A.M. University Road, Chh. Sambhajinagar (Aurangabad), M.S. India- 431002

Cell Phone No & Email ID: 7773940032, siddharthundirwade@gmail.com

Experience : 29 Years

Publications: International Journals: 14 (SCOPUS INDEXED), 10 (Peer reviewed Journals)

International Conferences: 08, National Conferences: 06

(Dr. Siddharth K. Undirwade)
Professor Mech.
P.E.S. College of Engg. Aurangabad

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Sagar Dnyandev Patil

Date of Birth: 12/08/1986

Qualifications: Ph.D.

Domain and Department: Mechanical Engineering

Research Area: Composite Material, Optimization Techniques, Processing on Machining Parameters, 3D Printing Technology

Address: 17/416/8, Murdande Mala lane no.03, Ichalkaranji, Dist: Kolhapur , Pin 416115

Cell Phone No & Email ID: 9518773927/9766911226, Email: sdpatil@sitcoe.org.in

No of M. Tech & PhD Students Completed & Ongoing: --MTech Student Completed: 01 , Ph.D student: 00

Publications in Scopus/SCI Journals: 15

https://www.scopus.com/authid/detail.uri?authorId=58983467600

(Attach as hyperlink):

Summary of Research Domain

My main research domain is Mechanics of Composite material, Optimization Techniques, Optimization of machining Parameters, 3D Printing Technology using AI.

I have published 15 research articles which are indexed in SCOPUS/Web of Science and 4 Patents in above field.

Name & Sign

Dr.Sagar Dnyandev Patil

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Nitinchand Ramkrishna Patil

Date of Birth: 23rd September 1973

Qualifications: ME, Ph.D

Domain and Department: Design Engineering, Mechanical Engineering

Research Area: Polymer composites

Organization/Institute: Nagesh Karajagi Orchid College of Engineering & Technology, Solapur.

Address: Gut No 16, Solapur Tuljapur Rd., Talehipparaga. Solapur-413002

Cell Phone No & Email ID:9552529252; pnitin239@gmail.com

No of M. Tech & PhD Students Completed & Ongoing:0

Publications in Scopus/SCI Journals only (Attach as hyperlink):

1. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:d1gkVwhDpl0C
2. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:W7OEmFMy1HYC
3. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:IjCSPb-OGe4C
4. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:YsMSGLbcyi4C
5. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:qjMakFHDy7sC
6. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:zYLM7Y9cAGgC
7. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:eQOLeE2rZwMC
8. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=g8YMp98AAAAJ&citation_for_view=g8YMp98AAAAJ:Y0pCki6q_DkC

Summary of Research Domain

Polymer composites are materials made by mixing plastics (polymers) with strong fillers like fibers or tiny particles to make them tougher and more durable. They're lightweight yet strong, resistant to rust and chemicals, and can be shaped into many forms, which makes them useful in cars, airplanes, buildings, and even medical devices. There's growing interest in using eco-friendly materials and adding smart features like sensors. The goal is to develop composites that are not only strong and reliable but also sustainable and versatile.

Name & Sign : Dr.Nitinchand Patil

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Pankaj P. Awate

Date of Birth: 20/07/1986

Qualifications: Ph.D. (Mechanical), ME (Design), BE (Mechanical).

Domain and Department: Domain - Nanocomposites, Design, Vibrations and MCDA

Department – Mechanical Engineering

Research Area: Mechanical Engineering

Organization/Institute: Padmabhooshan Vasantraodada Patil Institute of Technology (PVPIT),

Address: Budhgaon Tal – Miraj, Dist – Sangli. Pin – 416304, MH – INDIA

Cell Phone No & Email ID: 8805336485, ppawate@pvpitsangli.edu.in

No of M. Tech & PhD Students Completed & Ongoing: Mtech – Completed - 3, Ongoing -5,

PhD Students – Completed- 0, Ongoing -0

Publications in Scopus/SCI Journals only (Attach as hyperlink): SCI, SCOPUS publications -12

Link -1) https://acrobat.adobe.com/id/urn:aaid:sc:ap:e31bc5ad-1491-48b3-b4ab-6a56552777e9

2) https://docs.google.com/document/d/1KuLh1K0yoRD2czbifjDGmke3-ynLdFIAKfO9L1LP7hc/edit?tab=t.0

Summary of Research Domain

1) Although some improvements have been made in the construction of high speed applications (e.g. aviation, automotive, defense industries etc.), demand for lighter materials with high strength and wear resistance is greatly increased, which requires future development and research in this field.

2) Some metals, ceramics, carbon or organic matrix due to their lightweight, low cost, heat treatability, machinability, weldability and high corrosion resistance can be the crucial structural components of high speed applications such as aircraft fuselages, wings, internal panels, luxury vehicles door panels, chassis parts, and internal and external panels of trunk, if its problem of low strength and wear resistance is resolved.

3) The researchers have studied the impact of nanoparticles of metals, metal oxides or nano forms of carbon on various metal matrix or other matrix but remarkable enhancement in strength and wear resistance is still not achieved due to the unavailability of a well-equipped automatic stir casting furnace and failure to achieve uniform distribution of nanoparticles.

4) Amongst the advanced nanomaterial family some nanoparticles of metals, metal oxides or carbon (e.g. graphene and carbon nanotubes) are arising as very crucial materials that

can satisfy the needs of high strength and wear resistance in structural components of high speed applications, hence their broad exploitation is needed.

5) The major challenge in the formation of nanocomposites is to achieve uniform reinforcement dispersion in fabricating a sound specimen.
6) No methodology/technique exists to select the best nanocomposite from available compositions.

The other research domain includes composites, machine design, vibrations and Multi-criteria decision making.

Dr. Pankaj P. Awate
Name & Sign

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Pravin Laxman Jadhav

Date of Birth: 19.05.1980

Qualifications: Ph.D in Mechanical Engineering

Domain and Department: Mechanical Engineering

Research Area: Thermal Engineering, Refrigeration and Air Conditioning

Organization/Institute: Karmaveer Bhaurao Patil College of Engineering Satara

Address: Camp Sadar bazar Satara

Cell Phone No & Email ID: 9960097294, pravin.jadhav@kbpcoes.edu.in

No of M. Tech & PhD Students Completed & Ongoing:

Publications in Scopus/SCI Journals only (Attach as hyperlink): 18

Summary of Research Domain: Refrigeration and Air Conditioning, ,

Thermal Engineering

Thermodynamics

Heat and Mass Transfer

Renewable Energy Sources

Fluid Mechanical

Name & Sign

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Mukund Laxman Harugade

Date of Birth: 18/12/1986

Qualifications:

1. Doctoral Degree: Mechanical Engineering (2023) (BITS-Pilani)
2. Post-graduation Degree: Mechanical-Production Engineering (2013) (Shivaji University)
3. Graduation Degree: Mechanical Engineering (2010) (Shivaji University)

Domain and Department: Domain-Production, **Department**-Mechanical Engineering

Research Area: Non-conventional Machining, Micro-Machining

Organization/Institute: Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon, Sangli.

Address: 245, Harugade Corner, Near Balaji Medical, Old Samdoli Road, Sangliwadi, Sangli.

Cell Phone No & Email ID: 9665407840, mlhargude@pvpitsangli.edu.in, mukundharugade86@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: M.Tech - 01, **PhD** - 00

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://doi.org/10.1080/10426914.2021.2016814
https://doi.org/10.1177/09544054211014483
https://doi.org/10.1016/j.matpr.2019.06.616
https://doi.org/10.1016/j.matpr.2018.04.128
https://doi.org/10.1007/978-981-32-9425-7_6
https://doi.org/10.1007/978-3-319-68619-6_41

Summary of Research Domain

Enhancing the performance and expanding the applicability of Electrochemical Discharge Machining (ECDM), a hybrid non-traditional machining process that integrates the principles of Electrochemical Machining (ECM) and Electrical Discharge Machining (EDM). ECDM is particularly effective for machining electrically non-conductive materials such as glass, ceramics, and fiber-reinforced composites, which are otherwise difficult to process using conventional methods. Optimizing micro-machining quality parameters for composite materials, aiming to improve both precision and efficiency in their fabrication. Given the increasing use of these materials in advanced engineering applications, my research contributes to the development of robust, adaptable, and high-performance machining techniques.

Dr. Mukund Laxman Harugade

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: ARJUN ARUN KADAM

Date of Birth:29/07/1988

Qualifications: PH.D.in mechanical Engineeering, Bsc. agri

Domain and Department: Mechanical Engineering

Research Area: Mechanical Engineering Design

Organization/Institute: ARVIND GAVALI COLLEGE OF ENGINEERING, SATARA

Address: Mahadav Colony Malagaon Road , Miraj , Sangli , 416410

Cell Phone No & Email ID: 9730177047/ arjunkadamforu@gmail.com

No of M. Tech & PhD Students Completed & Ongoing:00

Publications in Scopus/SCI Journals only (Attach as hyperlink):

https://semarakilmu.com.my/journals/index.php/fluid_mechanics_thermal_sciences/article/view/8318

https://scholar.google.com/citations?user=NhhAWTAAAAAJ&hl=en

Summary of Research Domain:

The area of research interests appears to be in the **Mechanical Engineering**, with a focus on **design and development in agricultural equipment**. Some of the topics i covered in the design and analysis of subsoilers, Development of automatic sorting machines for turmeric rhizomes, and heat transfer analysis in various applications.

Name & Sign

Arjun Arun Kadam

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: **Dr.Shriniwas.S.Metan**

Date of Birth: 25th April 1973

Qualifications: PhD in Mechanical Engineering in NITK Surathkal, Karnataka.,
Master of Science in Mechatronics FH Aachen University, Germany,
Bachelors in Mechanical Engineering Shivaji University,

Domain and Department: **Mechanical Engineering**

Research Area: **Mechatronics, Manufacturing, Solar Energy, Materials, FEM, Design**

Organization/Institute: **Nagesh Karajagi Orchid College of Engineering and Technology Solapur**

Address: **Tirumala Niwas, Plot No 58, Ramrajya Nagar, Shelagi, Solapur, Maharashtra 413006.**

Cell Phone No & Email ID: **9552529283 & shrinivasmetan@orchidengg.ac.in**

No of M. Tech & PhD Students Completed & Ongoing: **03 M Tech completed and**
01 PhD Ongoing

Publications in Scopus/SCI Journals only (Attach as hyperlink):

SCI Indexed Link : https://www.scopus.com/authid/ detail.uri?authorId=57220221821

Google Scholar Inex : https://scholar.google.com/citations?user=UIgSLLkAAAAJ&hl=en

Summary of Research Domain:

My research interests lie at the intersection of Mechatronics, Manufacturing, Solar Energy, Materials, Finite Element Methods (FEM), and Design Engineering. I focus on the development of innovative products and systems that address real-world challenges, particularly those contributing to human development and societal needs. My work integrates practical design, experimental validation, and computational analysis to deliver impactful engineering solutions.

I have successfully guided B.Tech and M.Tech students in projects spanning these domains, many of which have led to industry collaborations and technology transfers. I welcome motivated PhD candidates with a passion for applied research in Mechatronics, Solar Energy Systems, Advanced Manufacturing Techniques, and FEM-based Design and Analysis. Together, we aim to drive forward engineering innovations with societal relevance.

Dr Shriniwas S Metan
Vice-Principal & Professor in Mechanical Engineering Deparment
Nagesh Karajagi Orchid College of Engineering and Technology Solapur

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Dhanraj Waghmare

Date of Birth: 12/05/1979

Qualifications: B. E. (Mech. Engg.), M.E. (Mech – Prod. Engg.), Ph.D. (Mech Engg.)

Domain and Department: Mechanical Engineering

Research Area: Laser Welding, Additive Manufacturing

Organization/Institute: Dr. Dr. Babasaheb Ambedkar Technological University, Lonere

Address: Lonere

Cell Phone No & Email ID: 8145736032, dbwaghmare@dbatu.ac.in

No of M. Tech & PhD Students Completed & Ongoing: 5 M. Tech., 2 Ph.D. ongoing

Publications in Scopus/SCI Journals only (Attach as hyperlink):

1. https://link.springer.com/article/10.1007/s11665-025-11063-2
2. https://www.sciencedirect.com/science/article/abs/pii/S003039921930581X
3. https://link.springer.com/chapter/10.1007/978-981-32-9433-2_40
4. https://onlinelibrary.wiley.com/doi/abs/10.1002/9781394214655.ch15
5. http://www.i-scholar.in/index.php/RTJ/article/view/196166
6. http://www.i-scholar.in/index.php/RTJ/article/view/195545
7. https://www.ijaiem.org/Volume4Issue7/IJAIEM-2015-07-20-23.pdf
8. https://ekumbh.aicte-india.org/book.php (Engineering Graphics book in Marathi by AICTE)

Summary of Research Domain

1. Laser welding of metals

2. Additive Manufacturing

Passport Size Photo

Name & Sign
(Dr. Dhanraj Waghmare)

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr Mahesh Ashok Bote

Date of Birth:18/02/1985

Qualifications: Ph.D.(Mech Engg)

Domain and Department: Thermal Engg, Mechanical Engg

Research Area: Renewable Energy

Organization/Institute: Sanjay Bhokare Group of Institutes Miraj

Address: Miraj

Cell Phone No & Email ID:7588171324, maheshbote1@gmail.com

No of M. Tech & PhD Students Completed & Ongoing:00

Publications in Scopus/SCI Journals only (Attach as hyperlink):

1. https://www.sciencedirect.com/science/article/pii/S2589299120300082
2. https://www.sciencedirect.com/science/article/pii/S2589299118301757
3. https://www.sciencedirect.com/science/article/abs/pii/S001623612031526X
4. https://seyboldreport.org/

Summary of Research Domain

My research primarily focuses on renewable energy systems, with a special interest in biogas and bioethanol production and their application in enhancing the efficiency of internal combustion (IC) engines. I have undertaken projects on biogas generation from aquatic weeds like water hyacinth, along with the design and development of briquette-making machines and mechanized chopper-crusher systems for effective biomass processing. Additionally, I have applied Taguchi methods and Response Surface Methodology (RSM) for performance optimization of spark ignition engines running on alternative fuels.

As a teacher and researcher, I believe in connecting classroom concepts to real-world applications. My teaching philosophy is rooted in practical, hands-on learning, where students are encouraged to explore, experiment, and innovate, particularly in areas related to sustainable energy and mechanical design.

I am keen on building industry collaborations to apply research outcomes in practical settings, particularly in renewable energy integration, alternative fuels, and performance enhancement of IC engines. My goal is to contribute solutions that are both environmentally sustainable and industrially viable.

Dr Mahesh A. Bote
Name & Sign

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. GAJANAN CHANDRABHAN JADHAV

Date of Birth: 20-06-1973

Qualifications: B.E., M.E., Ph.D. (Production Engineering)

Domain and Department: Assistant Professor Mechanical Engineering Department.

Research Area: Friction Stir Welding Process and Solid State Welding

Organization/Institute: HSM's Shri Sant Gadge Baba College of Engineering & Technology Bhusawal

Address: Near Zonal Training Centre, Bhusawal Dist Jalgaon Maharashtra 425201

Cell Phone No & Email ID: 07709044955 & gajjadhav@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: 00

Publications in Scopus/SCI Journals only (Attach as hyperlink):
https://scholar.google.com/citations?user=3w9L6UQAAAAJ&hl=en

https://www.scopus.com/dashboard.uri?origin=searchauthorfreelookup&zone=TopNavBar

https://orcid.org/0000-0001-9261-2925

Summary of Research Domain:

Research Area: ***Friction Stir Welding and Solid State Welding***

1. Introduction to Research Domain:

In recent years, the demand for lightweight, high-strength materials in industries such as aerospace, automotive, marine, and rail has led to widespread use of aluminium alloys. These alloys offer excellent strength-to-weight ratio, corrosion resistance, and formability. However, conventional welding techniques like gas tungsten arc welding (GTAW) and metal inert gas (MIG) welding often introduce problems such as porosity**,** hot cracking**,** and distortion when applied to aluminium alloys due to their high thermal conductivity and oxide layer.

The performance of FSW joints is highly sensitive to process parameters such as tool rotation speed, traverse speed, axial force, and tool pin profile. These parameters directly affect heat generation, material flow, microstructure evolution, and ultimately the strength and quality of the weld. Improper selection can lead to defects like voids, tunnels, or weak bonding.

2. Specific Research Topics:

- **A specific research on** Friction Stir Weding of Alluminium Alloys could focus on optimizing FSW parameters for joining alluminium alloys with varying state levels particularly in airospace industries and automotive industruies where light weight composite structures are increasingly common. This research explore how adjusting welding parameters like tool rotation speed, welding speed and tool geometry affects the mechanical properties, microstructure and defects found in this joints.

3. Research Methodology:

1. Research Design

Type: Experimental Research

Objective: To investigate how FSW process parameters (such as tool rotation speed, traverse speed, axial force, and tool geometry) affect the mechanical and microstructural properties of aluminium alloys.

2. Materials and Equipment

Base Material: Aluminium alloys (e.g., AA6061, AA7075 – specify the grade used)

Welding Machine: Friction Stir Welding setup with adjustable parameters

Tool Material: H13 steel or tungsten carbide, with various pin profiles (cylindrical, threaded, tapered)

Measuring Instruments:
Universal Testing Machine (UTM), Optical Microscope / SEM, Microhardness tester, Thermocouples (for temperature profiling)

3. Process Parameters to Study

Use five process parameters and optimize it by using softwares and go for experimentation.
After this go for testing and then data analysis and interpret the results by using statistical tools ANOVA.

4. Societal Relevance & Impact:

- **Lighter vehicles and aircraft**, reducing fuel consumption and carbon emissions.
- **Increased structural integrity**, improving safety and durability.
- **Cost-effective manufacturing**, as FSW requires less energy and produces fewer defects

5. Alignment with NEP 2020 and Viksit Bharat 2047:

- **Skill Development and Employability:** The project builds advanced manufacturing and materials engineering skills among students and researchers, preparing a workforce equipped for future industries.
- **Industry-Academia Linkages:** The relevance of this work to automotive, aerospace, and infrastructure sectors supports stronger collaborations between educational institutions and industry.
- **Sustainable and Green Development:** FSW is a low-energy, eco-friendly process. Improving its efficiency contributes to sustainable manufacturing—a key goal for a developed India by 2047.
- **Infrastructure and Industrial Advancement:** By improving joining methods for lightweight and high-performance materials, this research supports the development of efficient transport, defense, and energy infrastructure, core pillars of Viksit Bharat.

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. SHRIKANT ULHAS CHAUDHARI

Date of Birth: 14-07-1983

Qualifications: D.M.E., B.E., M.E., Ph.D. (Mechanical Engg)

Domain and Department: Assistant Professor Mechanical Engineering Department.

Research Area: Advanced Thermal Energy Systems and Sustainable Technologies.

Organization/Institute: HSM's Shri Sant Gadge Baba College of Engineering & Technology Bhusawal

Address: Near Zonal Training Centre, Bhusawal Dist Jalgaon Maharashtra 425201

Cell Phone No & Email ID: 07709044396 & shrikant8913@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: 00

Publications in Scopus/SCI Journals only (Attach as hyperlink):
https://scholar.google.com/citations?user=o9hyeqMAAAAJ&hl=en
https://www.scopus.com/authid/detail.uri?authorId=57203898950&origin=recordpage

Summary of Research Domain:

Research Area: ***Advanced Thermal Energy Systems and Sustainable Technologies***

1. Introduction to Research Domain:

The focus of this research is on the design, analysis, and development of thermal energy systems that contribute to sustainable development, energy efficiency, and environmental conservation. This includes innovations in renewable energy systems, heat transfer enhancement, and energy storage technologies. The aim is to address India's growing energy demands while reducing environmental impact and promoting self-reliance in energy systems as envisioned in *Viksit Bharat 2047* and NEP 2020.

2. Specific Research Topics:

- **Solar Thermal Energy Systems**:
  Design and performance analysis of solar collectors (flat-plate, parabolic troughs) and their integration with household and industrial processes.
- **Phase Change Materials (PCMs)** for Thermal Energy Storage:
  Investigation of novel PCMs for efficient and cost-effective thermal storage for HVAC and solar applications.

3. Research Methodology:

- **Simulation & Modeling**: Thermal system models developed and validated using MATLAB, CFD tools.
- **Prototype Development**: Lab-scale systems designed and tested for real-time performance.
- **Data Analysis & Optimization**: Use of Design of Experiments (DOE), machine learning, and AI tools for process optimization.

4. Societal Relevance & Impact:

- Promotes **energy access** in rural India through affordable thermal systems.
- Contributes to **climate action** by reducing GHG emissions.
- Encourages **entrepreneurship and local manufacturing** under *Atmanirbhar Bharat*.
- Provides data and models to support **policy recommendations** on clean energy.

5. Alignment with NEP 2020 and Viksit Bharat 2047:

- Emphasizes **multidisciplinary research**, **innovation**, and **real-world applicability**.
- Encourages **experiential learning**, student involvement in research, and translational projects.
- Supports NEP goals of **technology-driven solutions** and **sustainable development**

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. SHRIKANT ULHAS CHAUDHARI

Date of Birth: 14-07-1983

Qualifications: D.M.E., B.E., M.E., Ph.D. (Mechanical Engg)

Domain and Department: Assistant Professor Mechanical Engineering Department.

Research Area: Advanced Thermal Energy Systems and Sustainable Technologies.

Organization/Institute: HSM's Shri Sant Gadge Baba College of Engineering & Technology Bhusawal

Address: Near Zonal Training Centre, Bhusawal Dist Jalgaon Maharashtra 425201

Cell Phone No & Email ID: 07709044396 & shrikant8913@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: 00

Publications in Scopus/SCI Journals only (Attach as hyperlink):
https://scholar.google.com/citations?user=o9hyeqMAAAAJ&hl=en
https://www.scopus.com/authid/detail.uri?authorId=57203898950&origin=recordpage

Summary of Research Domain:

Research Area: ***Advanced Thermal Energy Systems and Sustainable Technologies***

1. Introduction to Research Domain:

The focus of this research is on the design, analysis, and development of thermal energy systems that contribute to sustainable development, energy efficiency, and environmental conservation. This includes innovations in renewable energy systems, heat transfer enhancement, and energy storage technologies. The aim is to address India's growing energy demands while reducing environmental impact and promoting self-reliance in energy systems as envisioned in *Viksit Bharat 2047* and NEP 2020.

2. Specific Research Topics:

- **Solar Thermal Energy Systems**:
  Design and performance analysis of solar collectors (flat-plate, parabolic troughs) and their integration with household and industrial processes.
- **Phase Change Materials (PCMs)** for Thermal Energy Storage:
  Investigation of novel PCMs for efficient and cost-effective thermal storage for HVAC and solar applications.

3. Research Methodology:

- **Simulation & Modeling**: Thermal system models developed and validated using MATLAB, CFD tools.
- **Prototype Development**: Lab-scale systems designed and tested for real-time performance.
- **Data Analysis & Optimization**: Use of Design of Experiments (DOE), machine learning, and AI tools for process optimization.

4. Societal Relevance & Impact:

- Promotes **energy access** in rural India through affordable thermal systems.
- Contributes to **climate action** by reducing GHG emissions.
- Encourages **entrepreneurship and local manufacturing** under *Atmanirbhar Bharat*.
- Provides data and models to support **policy recommendations** on clean energy.

5. Alignment with NEP 2020 and Viksit Bharat 2047:

- Emphasizes **multidisciplinary research**, **innovation**, and **real-world applicability**.
- Encourages **experiential learning**, student involvement in research, and translational projects.
- Supports NEP goals of **technology-driven solutions** and **sustainable development**

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Hemant Krishnarao Wagh

Date of Birth: 01/06/1979

Qualifications: Ph. D. in Mechanical Engineering

Domain and Department: Engineering & Technology (Mechanical Engineering)

Research Area: Design optimization, CAD CAM CAE CIM, Finite Element Analysis

Organization/Institute: R. C. Patel Institute of Technology, Shirpur

Address: Nimzari Naka, Shirpur Dist: Dhule, Maharashtra (425405)

Cell Phone No & Email ID: 9405533385

No of M. Tech & PhD Students Completed & Ongoing: MTech completed:2, Phd completed: 1

MTech Ongoing: 0 , Phd ongoing: 1

Publications in Scopus/SCI Journals only (Attach as hyperlink):

Scopus id= 57189457693

Google scholar link: https://scholar.google.com/citations?user=TaWSiScAAAAJ&hl=en

Summary of Research Domain

I am a mechanical engineering researcher with expertise in Design Optimization, CAD/CAM/CAE/CIM integration, Finite Element Analysis (FEA), and Design of Experiments (DOE). My work integrates computational modeling, physical prototyping, and experimental validation to address engineering challenges in structural design, aerospace mechanisms, manufacturing systems, and energy applications.

A major focus of my research has been the performance evaluation of bolted joints, specifically using helical spring lock washers. I developed a test rig for load-deflection testing, leading to two granted Indian patents through CSIR-NCL, Pune:

"Test rig for washers in nut bolt assembly" (Design Patent No. 279123, Granted on 03/06/2016)

"Test rig for compressive testing of helical spring lock washer" (App. ID: 201611001045, Published on 19/01/2018)

My aerospace research includes the design of deployment mechanisms for space telescopes, with a focus on dynamic behavior and precision mechanisms. Additionally, I worked on a DRDO-sponsored M.E. project, titled “Finite Element Based Transient Dynamic Analysis of Four-Wheel Trolley of Ground Power Unit of Jaguar and Mirage-2000 Aircraft”, where I analyzed the structural safety and dynamic performance of aircraft support systems.

In the areas of fluid dynamics and thermal systems, I’ve conducted CFD-based research on orifice meters, nozzle discharge analysis, and biodiesel combustion in CI engines. I’ve also explored thermal management of solar PV panels and nano-lubricants for refrigeration systems to promote sustainable energy solutions.

I actively apply Design of Experiments (DOE) in my research to optimize design parameters and improve system performance, utilizing CAD/CAM/CAE/CIM tools to drive innovation in smart manufacturing and digital product development, in alignment with Industry 4.0.

In addition to my publications, I have filed several Indian patents, including:

"Design and development of 360-degree welding turning table with scissor height adjustor" (App. ID: 202221016223)

"Spine and back brace" (Design App. No. 353936-001)

"Library automation through RFID, IoT, and AI" (App. ID: 202211069521)

I hold a copyright for the MATLAB software "Experimental analysis of temperature distribution in pin fin", and authored a book titled “Finite Element Based Transient Dynamic Analysis” (ISBN: 9783659627866), published by Lambert Academic Publishing, Germany.

I also received research grant under the Vice Chancellor Research Motivation Scheme (VCRMS) from North Maharashtra University for my project on optimizing helical spring lock washers to improve bolted joint performance.

Additionally, I am currently Completed my AICTE-QIP-PG certification course in Artificial Intelligence (AI) at the Indian Institute of Information Technology (IIIT), Vadodara from June 2024 to December 2024, further enhancing my expertise in artificial intelligence and its applications in mechanical engineering.

Through my work, I strive to contribute to the advancement of smart manufacturing, sustainable energy technologies, and cutting-edge mechanical systems.

Dr. Hemant Krishnarao Wagh

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Prof. Dr. Abhay Arun Utpat

Date of Birth: 28/07/1979

Qualifications: BE ME PhD (Mechanical Engineering)

Domain and Department: Metallurgy/Manufacturing Processes - Mechanical Engineering

Research Area: Bearing condition monitoring, Manufacturing, PCM, Metallurgy

Organization/Institute: Karmayogi Institute of Technology, Shelve, Pandharpur

Address: A/P Shelve, Pandharpur -413304 Dist: Solapur

Cell Phone No & Email ID: 9158325055, abhayutpat@gmail.com

No of M. Tech & PhD Students Completed & Ongoing: MTech Completed : 20

PhD Ongoing : 03

Publications in Scopus/SCI Journals only (Attach as hyperlink): https://docs.google.com/spreadsheets/d/188Ni_oITz7WxBxT5lyMKkrM2qfODL8WBCIEEDlmSMe0/edit?usp=sharing

Summary of Research Domain

1.Bearing condition monitoring is a crucial area of research in mechanical and electrical engineering, focused on the detection, diagnosis, and prediction of faults in bearings—key components in rotating machinery such as motors, turbines, pumps, and gearboxes. The goal is to ensure reliability, minimize downtime, and prevent catastrophic failures in industrial systems.

Project completed as Co-Investigator

Title:-Structural Health monitoring using vibration based signals.
Amount:- Rs. One Lakh , Duration: Year 2018-19

Agency:-PAH Solapur University, Solapur. Ref No:- SUS/TA-2/2016-17/1991dated 27/03/2017

2.Photochemical Machining (PCM), also known as photochemical etching, is a **non-traditional subtractive manufacturing process** used to produce precise and complex metal components. It leverages chemical etching and photolithography to remove material selectively without mechanical force or heat, making it ideal for producing intricate, burr-free parts.

Project Completed as Principal Investigator:-

Title: Development and Process optimization of3D PCM technology for micro features Manufacturing.

Amount: Rupees ~27 Lakh

Agency: BRNS (DAE) Sanction No: 34/14/04/2018-BRNS/34081. Duration: Year 2018-19 to 2020-21.

Name & Sign : Prof Dr Abhay Arun Utpat

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Hanumant M Dharmadhikari

Qualifications: BE (Mech) (GECA); ME (GECA); PhD (NITW)

Department: Mechanical Engineering

Research Area: Heat Power, Optimization

Address: Department of Mechanical Engineering, G.S.Mandals Maharashtra Institute of Technology, Chhatrapati Sambhajinagar (Aurangabad) MS India – 431010

Cell Phone No & Email ID: 9423151795, hmdharmadhikari@gmail.com

Experience : 33 years

Publications: International Journals: 15

International Conferences: 05

Dr. Babasaheb Ambedkar Technological University, Lonere Raigad

One Page Summary of Research Area

Name : **Dr. Ramesh G. Pungle**

Qualifications : **B. E. (Mech.), M.E. (Prod.), Ph.D. VNIT, Nagpur**

Department : **Mechanical Engineering**

Research Area : **Automated Guided Vehicle**

Robotics

Use of IOT in Automation

Industrial Engineering

Ph.D. Title : Position and Path Control of Automated Guided Vehicle by Fixed Sensor and Controller

Address : **Department of Mechanical Engineering**

P.E.S. College of Engineering

Nagsenvana, Chh. Sambhajinagar (M.S.) -431002

E- mail : **rameshgpungle@gmail.com**

Mob. : **9423452533**

Experience : **Teaching : 28 Yrs, Industry : 4 Yrs, Total : 32 Yrs**

Publications : **1. International Journal 09**

2. International Conference 03

3. National Conference 08

https://scholar.google.co.in/citations?user=jyVXZHQAAAAJ&hl=en

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Dr. Tarang Ramrao Shinde

Qualifications: M. Tech, Ph. D (College of Engineering Pune, Savitribai Phule Pune University)

Department: Department of Mechanical Engineering

Research Area: **Manufacturing, Material Science, Metallurgy**

Address: Associate Professor and Head, Department of Mechanical Engineering

Faculty of Engineering, Yashoda Technical Campus, Satara, affiliated to

Dr. Babasaheb Ambedkar Technological University, Lonere

Cell Phone No & Email ID: 9822625745 **Email: trs_mech@yes.edu.in**

Experience: 18 years

Publications: https://scholar.google.com/citations?user=uYIZPv0AAAAJ&hl=en&oi=ao

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Pankaj Phadnis Awate

Qualifications: Ph.D. (Mechanical), ME (Design), BE (Mechanical).

Department – Mechanical Engineering

Governing Council member, Head of Mechanical Department, BoS Member, BoS member – Fabtech Sangola, PG coordinator @ PVPIT Sangli, Ph.D. Guide & Syllabus Setter @ DBATU Lonere

Research Areas: Fabrication, Characterization of Composites, and Nanocomposites

New Material Development/ Nanomaterial

Multi-criteria Decision Making Analysis (MCDA)

Machine Design & Vibrations Analysis

Organization/Institute: Padmabhooshan Vasantraodada Patil Institute of Technology (PVPIT),

Address: Budhgaon Tal – Miraj, Dist – Sangli. Pin – 416304, MH – INDIA

Cell Phone No & Email ID: 8805336485, ppawate@pvpitsangli.edu.in

No of M. Tech & PhD Students Completed & Ongoing: Mtech – Completed - 4, Ongoing -6,

PhD Students – NIL

Publications in Scopus/SCI Journals only (Attach as hyperlink): SCI, SCOPUS publications -

Publications - 55: International Journals – 35 (SCI, SCOPUS – 13, UGC- 7, PEER REVIEW-15),

International Conferences - 20

Hyperlink - https://drive.google.com/file/d/1kWDtn-3psPdqrGMEpgujCNfK8r2Tm7sY/view?usp=drive_link

Patents - Total 5 (3 Received, 2 Awaiting)

Copyright – 4 **Reviewer** - Elsevier, IOP Publication

Training Workshops – Total 71 (Two Week/One week -30, Less than One Week – 41)

Professional memberships - Life member of ISTE, Tribology Society of India (TSI)

Award - Global Teacher Award 2021

Dr. Pankaj P. Awate
Name & Sign

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Prof. Dr. Rahul Bhalchandrappa Barjibhe

Principal, Hindi Seva Mandal's, Shri Sant Gadge Baba College of Engineering and Technology, Bhusawal

Email: rahulbarjibhe@yahoo.com **Mobile:** +91 – 9665704444 **Total Experience:-** 24 Years

Address: Kulkarni Plots, Behind Civil Court, Bhusawal - 425201. Dist. Jalgaon. Maharashtra

Qualifications:

Sr. No.	Degree	University	Year
1	Ph.D. (Mechanical Engineering)	K.B.C., North Maharashtra University, Jalgaon	2016
2	M.E. (Mechanical Engineering)	Savitribai Phule, Pune University, Pune	2010
3	B.E. (Mechanical Engineering)	K.B.C., North Maharashtra University, Jalgaon	1999

Publications:

1. Number of International Journals : - 54
2. Number of International Conferences : - 11

P.G. /Ph.D. Research Activities:

1. Number of Students awarded for Ph.D. : - 05
2. Number of Students registered for Ph.D. : - 08
3. Number of Students completed P.G. (M.Tech.) :- 30

Publications: https://scholar.google.com/citations?hl=en&user=-STS3tgAAAAJ

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Vinayak Hindurao Deokar

Qualifications: Ph.D (Pune University)

Department: Department of Mechanical Engineering

Research Area: Composite Materials, Renewable Energy, Energy Storage, Experimental Stress Analysis.

Address: Assistant Professor, Department of Mechanical Engineering

Sanjeevan Group of Institutions, Panhala, Tal – Panhala, Dist – Kolhapur, 416201.

Mobile No: 9860826083 **Email:** vinayak.deokar@seti.edu.in

Experience: 15 Years

Publications: Sci/ scoupus indexed – 02

UGC care - 03

https://www.scopus.com/authid/detail.uri?authorId=57221206923

https://www.researchgate.net/profile/Vinayak-Deokar

Dr. Babasaheb Ambedkar Technological University Lonere Raigad

One Page Summary of Research Area

Name: Dr. Ramchandra Prabhakar Chopade

Qualifications: M. Tech, Ph. D (IIT Guwahati)

Department: Department of Mechanical Engineering

Research Area: **Fluid flow, Heat transfer, Optimization**

Address: Professor, Department of Mechanical Engineering

CSMSS Chh. Shahu College of Engineering Chhatrapati Sambhajinagar

Cell Phone No & Email ID: 9960702085 **Email: rpchopade@gmail.com**

Experience : 20 years

Publications: https://scholar.google.co.in/citations?user=Hag0I94AAAAJ