

## BIO-DATA



1. **Name** Dr. Bharatbhushan S. Kale
2. **Designation** Assistant Professor
3. **Residential Address** B-404, Soaham CHS, Plot No D-16/1, Sector 20, Airoli  
Navi Mumbai  
Maharashtra
4. **Date of birth** 14<sup>th</sup> April
5. **Total Experience** 15.5 years
  - i. **Teaching** 15.5 years
  - ii. **Industrial** Nil

6. **Qualifications**

Exam Passed	Year	Institution/ University	Branch/Specialization	Percentage/CGPA
Ph.D.	2021	University of Mumbai	Mechanical Engineering	---
M.Tech	2009	Government College of Engineering, Amravati, affiliated to S.G.B. Amaravati University	Thermal Engineering	68.56
B.E.	2005	Prof. Ram Meghe Institute of Technology and Research Badnera, Amravati, affiliated to S.G.B. Amaravati University	Mechanical Engineering	8.22 CGPA

**Additional Qualification:**

7. **Employment Record**

Institution	Year (From To)	Designation
Fr. C. Rodrigues Institute of Technology, Vashi Navi Mumbai, Affiliated to the University of Mumbai	Nov 2022 to till date	Assistant Professor
Datta Meghe College of Engineering, Airoli, Navi Mumbai. Affiliated to the University of Mumbai	July 2007 to Nov 2022	Assistant Professor

**8. Undergraduate / Postgraduate Teaching Experience and Subjects Taught**  
**Subjects Taught at UG level**

Sr.No.	Name of Subject	Semester
1.	Thermodynamics	III
2.	Heat Transfer	V
3.	Thermal Engineering,	V
4.	Power Engineering,	VIII
5.	Thermal Fluid Power Engineering,	VI
6.	Theory of Machine I	IV
7.	Engineering Drawing	II

**Subjects Taught at PG level**

Sr.No.	Name of Subject	Semester
1	Control Engineering	I
2	Product Design	I

**9. Research Experience: Nil**

**10. Research Funding / Consultancy Services:**

**Research Grants:**

Sr. No.	Name of Funding Organization	Type of Grant	Amount (Rs.)	Year	Name of Research Project
01	University of Mumbai	University Minor Research, (Reference No. PD/237/601 of 2019)	30,000	2018-19	Development of Experimental Set up for Study and Analysis of Microfractals under vacuum and higher pressure using Non-Newtonian Fluid.

**11. Professional Societies Fellowship / Membership**

- Life Member of ISTE, Membership No.:- LM – 58156
- Annual Membership of SAEINDIA, Membership No.:- 7160511211
- International Association of Engineers (IAENG), Membership No.:- 200278

**12. Achievements / Awards / Position**

- 1) Received a Best Paper Award at “International Design Engineering Technical Conferences and Computers and Information in Engineering Conference IDETC/CIE2022, August 14-17, 2022, St. Louis, Missouri, USA. ( ASME 2022).

**13. Projects guided in UG/PG level.****PG Level:**

<b>Sr. No.</b>	<b>Title of Dissertation / Project</b>	<b>Year</b>	<b>Name of student(s)</b>
1	Analysis of Crash Box for Enhancement of Crash Performance of Vehicle Using Hybrid Approach	2022	Ms. Snehal Wagh
2	Numerical simulation of microfractals formation in lifting plate Hele-Shaw cell	2022	Mr. Suraj Satyawan Raul
3	Performance Evaluation of Quarter Car Model Semi-Active Suspension System with Fuzzy Logic Controller	2017	Mr. Nikhil Deepak Desai
4	Fabrication and Simulation of Conductive Tapered Microcantilever using Lift off Technique	2016	Ms. Neha K. Mishra
5	Development of micro-lens Array using Micro-EDM and micromoulding Process	2016	Mr. Harshvardhan B. Mokashi
6	Stress Analysis of Doors and Windows of Boeing 787 Aircraft subjected to Biaxial loading	2014	Mr. Swapnil J. Soni

**UG**

<b>Sr. No.</b>	<b>Year</b>	<b>Title of Dissertation / Project</b>	<b>Name of student(s)</b>
1	2022-23	Design and Fabrication of 180 - Degree Solar Panel Air Cooler	Pagare Vikrant Avinesh Patil Atharva Tanaji Karwande Pratiksha Hiranman Thakur Apurva Vidyadhar
2	2022-23	Design and Fabrication of Coolant Mixing System	Rane Nikhil Milind Ahire Tanvi Pitambar Pardeshi Rushikesh Vijay Talpade Sahil Suresh
3	2022-23	Design and Fabrication of a Mechanical Bird (UAV)	Kubal Mihir Balkrishna Chandan Nidesh Narayan Limaye Aadya Ashish Pawar Siddharth Hiranman
4	2022-23	Faults Detection in Centrifugal Pump Using Voltage Current Analysis	Upadhyay Ashutosh vinod Talreja Darpan Vikram Shah Zeeshan Mohammad Ingle Amey Ajay
5	2021-22	Design and Fabrication of Pico Hydro Turbine	Maladkar Shruti Vinod Jha Jitesh Rajendra Kalokhe Prathamesh Mahesh Mhatre Apurva Sandip
6	2021-22	Design and Analysis of Disc Brake by Using Aluminium Matrix Composite (AMC)	Pandey Kundan Vinod Kabugade Sudarshan Sanjay Musale Mandar Shekhar
7	2020-21	Thermal Analysis and Fabrication of Conical Pin Fin Array	Desale Pratiksha Manohar Deshpande Akshata Pravin Kindre Akshay

8	2020-21	Design and Fabrication of Multi Operational Machine using Arduino and GRBL Shield	Warke Udaykumar Nilkanth Gupta Krishna Nandlal Gupta Triveniprasad R Kulkarni Prathamesh Milind
9	2020-21	Design and Analysis of Compatible Shock Absorber	Manjeshwar Hardik Damodar Naik Abhishek Pratap Pathak Mitesh Sarojkant Mandale Sunny Tanaji
10	2020-21	Design and Analysis of Integrated Dual Tandem Master Cylinder	Dhepe Prasanna Santosh Thakur Akshara Prashant Pimple Nitesh Santosh Gaikar Ritik Dilip
11	2019-20	Design and Fabrication of Solar Desalination System	Chakor Abhishek Shamkant Jadhav Nikhil Ravindra Patil Prasad Parshuram Sangle Pratik Dattatray
12	2019-20	Parametric Analysis of Viscous Fingering Using Hele Shaw Cell	Katke Jatin Rajkumar Kawatkar Viraj Satyawan Khan Aliullah Malik Kunal
13	2019-20	Design and Fabrication of a Portable Integrated Power Generation System	Nerkar Diana Sawant Ganesh Harish Zagade Anamika Anil
14	2019-20	Design and Fabrication of Bladeless Wind-Mill	Kumbhar Ganesh Sakharam Vaze Bhavesh Shashikant Kondyala Tanish Kishan Tatkare Himanshu Vijay
15	2018-19	Design and optimization of duct with modification in control system of air handling unit	Nimase manoj dharm Padwal mandar dipak Salunkhe aniket kakasaheb Suryawanshi sagar hanmant
16	2018-19	Design and optimization of solar water heater	Nimse shruti sunil Potdar pooja shashikant Naware viplav kishor Mote akshaykumar ashok
17	2018-19	Optimization of gas turbine blade using thermal barrier coating	Dhaigude Dnyaneshwar N. Suvarna Sanketh Ramesh Yadav Ashish Hiralal
18	2017-18	Design & Fabrication of BAJA ATV Chassis	Kumbhar Sahil Shashikant Mhatre Akshay Choudhary Mohd Rizwan Y.
19	2017-18	Design & Fabrication of Transmission system for All Terrain Vehicle	Khare Anuj Ashok Desale Saurabh Madanrao Kumbhar Vivek Balkrishna Salunke Bhavesh Sanjay
20	2016-17	Design & analysis of suspension and steering system of All-terrain vehicle	Ghadage Aniket Jayhind Sawant Vinay Ramkrishna Phaphagire Raman Bhagwat
21	2016-17	Design & Simulation of formula student vehicle	Kandalkar Anshul Chakradhar Khan Mohammad Mustakim Saharabuddhe Pranav Rajendra Chheda Dhirya Rajesh
22	2015-16	Design and Fabrication of Multipurpose Machine Tool for Agriculture	Malavakar Mayuri Maruti Pasthe Neelam Jagannath Vishwasrao Payal Ramhari

23	2015-16	Design and Fabrication of Power Generation Unit using Shock Absorbers	Bhomale Gaurav Badashaha Ghanavat Mayur Ramesh Ghare Samadhan Ramesh Ghorpade Abhijeet Tukaram
24	2014-15	Studying and Virtually Designing the Concept of Vertical Take-off & Landing Aircraft	Abhijit Dongare Ninad Bhavsar Ronit Das Harihar Singh
25	2014-15	Design and Fabrication of Pneumatic Comparator”	Borge Namita Bhaskar Kapse Aarti Dilip Mohd Aquib Nafees Ahmed
26	2013-14	Dynamic Analysis using the finite method of single cylinder four stroke petrol engine.	Bendale Vishal Hemant Borate Nilam Vilarao Jadhav Aniket Uttam Kawalekar Akshata Ashok
27	2013-14	Design and Fabrication of Unmanned Ariel Vehicle	Bagwe Aishwarya Sudesh Malusare Abhishek Gajanan Ahmed Israr Palkar Srinath
28	2013-14	Design and Fabrication of Aluminium Tin Can Crushers	Gharat Prashant Ankush Mardhekar Sagar Suresh Shinde Amol Shahaji Yele Shrikant Vilas
29	2012-13	Study of overhauling of 140 T EOT crane at Central Railway	Patil Avdhoot Waman Patil Ganesh Uttam Patil Kaustubh Anil
30	2012-13	Implementation of Total Productive Maintenance in the Precision Engineering Department	More Dhirajkumar Kishor Patil Aniket Mukund
31	2012-13	Design and Fabrication Mechanically ( Pedal ) Powered System	Dash Ashish Febin Moses
32	2012-13	Design of Fabrication of Magnetic Motor	Kadam Aniket Ashok Lokhande Neha Devidas Patel Shweta Ishwar Raman Priyanka P.
33	2011-12	Design and Fabrication of waste water treatment plant	Oak Sachin S. Kapoor Jitesh N. Gaonkar Adarsh P.
34	2011-12	Design and Fabrication Solar Powered Compressor Less Refrigerator	Sali Rahul G. Tiwari Abhishek H. Sandeep Satishchandra Chaturvedi Aakash P.
35	2011-12	Design and Fabrication of LPG water cooler	1.Rasal Abhijit A. 2.Mudliar Deepak K. 3.Nair Disha D. 4.Sankpal Aparna S.

#### 14. Short Term Training Programmes

##### Organised

- Successfully Organised Three days workshop on "Recent Trend in Mechanical Engineering 2.0" June 2021 as a Convener, dated 20<sup>th</sup> -22<sup>nd</sup> Oct 2021.

- Successfully Organised Three days STTP on "Recent Trend in Mechanical Engineering 2021." 28<sup>th</sup> -30<sup>th</sup> June 2021 as a Co-ordinator, dated 28<sup>th</sup> -30<sup>th</sup> June 2021
- Successfully Organised Two days workshop on "Hand Gesture Control Devices" on 9<sup>th</sup> and 10<sup>th</sup> October 2015

#### **Attended**

- Successfully completed one-week Elementary FDP on " Advanced 3D printing and design" organised AICTE Training And Learning (ATAL) Academy Online FDP, 20<sup>th</sup> December 2021 to 24<sup>th</sup> December 2021, at Sardar Patel College of Engineering Mumbai.
- Successfully completed one-week Elementary FDP on " Developing Interpersonal Skills and Effective Communication Intelligence" organised AICTE Training And Learning (ATAL) Academy Online FDP, 6<sup>th</sup> December 2021 to 10<sup>th</sup> December 2021, at Sardar Patel College of Engineering Mumbai.
- Successfully completed one-week Elementary FDP on " Drug Engineering" organised AICTE Training And Learning (ATAL) Academy Online FDP, 04<sup>th</sup> October 2021 to 08<sup>th</sup> October 2021, at Sardar Patel College of Engineering Mumbai.
- Successfully completed one-week Elementary FDP on "3D Printing and Design" organised AICTE Training And Learning (ATAL) Academy Online FDP, 20<sup>th</sup> September 2021 to 24<sup>th</sup> September 2021, at Sardar Patel College of Engineering Mumbai.
- Successfully completed one-week Elementary FDP on " Micro-electromechanical Systems" organised AICTE Training And Learning (ATAL) Academy Online FDP, 23<sup>rd</sup> November 2020 to 27<sup>th</sup> November 2020, at Sardar Patel College of Engineering Mumbai.
- Successfully completed two-week STTP on "Outcome based Education conducted by Datta Meghe College of Engineering, Airoli Navi Mumbai" 25-06-2020 to 04-07-2020
- Successfully completed one FDP on "1st International FDP on Research and Development in Material Behaviour, Processing and Characterisation Techniques" organised by Dept. Mechanical Engineering, GLA University, Mathura in association with Indian Institute of Metals (IIM), Mathura Chapter and Panjab University, Chandigarh, 09-06-2020 to 14-06-2020
- Successfully completed one-week STTP "Application of Industrial Engineering in Manufacturing & Infrastructure organised by Department of Mechanical Engineering, Datta Meghe College of Engineering, Airoli Navi Mumbai, In association with Indian Institution of Industrial Engineering (IIIE), 18-05-2020 to 22-05-2020
- Successfully completed one-week training cum workshop organised under TEQIP Phase-II on "Advanced Pressure Vessel Design And Analysis" in collaboration with L&T, by Mechanical Engineering Department of SPCE, Andheri (west) Bhavan's Campus, Mumbai-58, from 26<sup>th</sup> May to 30<sup>th</sup> May 2014.
- Successfully completed one day workshop on "Computational Fluid Dynamics using Open FOAM" organised by FOSSEE, at IIT Bombay held on 22<sup>nd</sup> March 2014.
- Successfully completed two-day workshop organised on "Industrial Fluid Power and its Application" by Sinhgad Institute of Technology Lonavala, from 14/02/2012 to 15/02/2012.
- Successfully completed a two-week ISTE workshop on "Thermodynamics in Mechanical Engineering" conducted by IIT Bombay from 14<sup>th</sup> to 24<sup>th</sup> June 2011.

- Successfully completed three days workshop on "Environmental Studies (EVS)" conducted by Jeevan Vidya Centre, Somaiya Vidyavihar on behalf of the University of Mumbai, 6<sup>th</sup> -8<sup>th</sup> August 2009
- Successfully completed two-week STTP on "Trends in Computer Networking" conducted by Datta Meghe College of Engineering, Airoli Navi Mumbai, 13<sup>th</sup> July to 24<sup>th</sup> July 2009.
- Successfully completed two-week STTP on "Accreditation and ISO certification of Technical Institution" conducted by Datta Meghe College of Engineering, Airoli Navi Mumbai, 7<sup>th</sup> July 2008 to 18<sup>th</sup> July 2008.
- Successfully completed three-week workshop cum training on Engineering Tools and Techniques Course "Imagineering Connect" conducted by Larsen and Toubro Limited, 2<sup>nd</sup> June to 20<sup>th</sup> June 2008.

## 15. List of Papers Published Journal/ Book Chapter

- ❖ **Bharatbhushan S. Kale**, Kiran S. Bhole, and Chetna Sharma. "Effect of anisotropies in formation of viscous fingering in lifting plate Hele-Shaw cell." *Advances in Materials and Processing Technologies* (2021): 1-14. Publisher: Taylor & Francis.
- ❖ Kiran S. Bhole, and **Bharatbhushan Kale**. "Sublimation technique for minimisation of stiction induced during fabrication of closely spaced microstructures." *Advances in Materials and Processing Technologies* (2022): 1-11. Publisher: Taylor & Francis.
- ❖ Bhole, Kiran S., and **Bharatbhushan Kale**. "Techniques to minimise stair-stepping effect in micro-stereolithography process: A Review." *Advances in Materials and Processing Technologies* (2021): 1-20. Publisher: Taylor & Francis.
- ❖ **Bharatbhushan S. Kale**, Kiran S. Bhole, Harshal Dhongadi, Sachin Oak, Prashant Deshmukh, Ankit Oza, Ramesh Raju." Effect of Polygonal Surfaces on Development of Viscous Fingering in Lifting Plate Hele-Shaw Cell" **Accepted** in *International Journal on Interactive Design and Manufacturing (IJIDeM)*. Publisher: Springer
- ❖ **Bharatbhushan S. Kale**, and Kiran S. Bhole. "Controlling the instabilities in the radial Hele-Shaw cell." *International Journal of Theoretical and Applied Multiscale Mechanics* 3.3 (2020): 245-260. **Publisher: Inderscience**
- ❖ **Bharatbhushan S. Kale**, Kiran S. Bhole, Sanket S. Devkare, and Chetna Sharma. "Simulation of Viscous Fingers Developed in Lifting Plate Hele-Shaw Cell in Volume of Fluid Model". *International Journal of Advanced Science and Technology* 29 (3), (2020):14867.  
<http://sersc.org/journals/index.php/IJAST/article/view/31990>.  
**Publisher: Science and Engineering Research Support Society, Australia.**
- ❖ Manoj Nimase, Mandar Padwal, Sagar Suryawansh, Dhirajkumar K. More and **Bharatbhushan S. Kale**. "Review paper on the control system of the air handling units." *International Research Journal of Engineering and Technology (IRJET)* 6 (2019): 3881-3894.
- ❖ **Bharatbhushan S. Kale**., Kiran Bhole, and Prachi Khond. "Experimental Modeling of Meso Fractals generated from non-Newtonian fluid from Lifting Plate Hele-Shaw Cell." *International Journal of Advanced Materials Manufacturing & Characterization* Vol. 9 Issue 2 (2019).
- ❖ Khond, Prachi J., Onkar G. Sonare, **Bharat S. Kale**, and Neha K. Mishra. "Critical review on viscous fingering of non-Newtonian fluid developed in Hele-Shaw cell"

Journal of Emerging Technologies and Innovative Research (JETIR) Vol. 4, no. 4 (2017): (ISSN-2349-5162).

- ❖ Nikhil Desai and **Bharatbhusha S. Kale**. "a review work on suspension systems models, control strategies for Suspension system" Journal of Emerging Technologies and Innovative Research (JETIR) Vol. 3, no. 10 (2016), (ISSN-2349-5162).
- ❖ Neha Mishra , **Bharatbhushan Kale** and Prachi Khond. "review: microcantilever fabrication Technology" Journal of Emerging Technologies and Innovative Research (JETIR) Vol. 3, no. 7 (2016), (ISSN-2349-5162).
- ❖ Harshavardhan Mokashi, **Bharat Kale**, Nilesh Singh and Gourav Talathi. "Development of Micro-lens array using Micro-EDM and Micro-Molding process" Journal of Emerging Technologies and Innovative Research (JETIR) Vol. 2, no. 10 (2015), (ISSN-2349-5162).
- ❖ Swapnil Soni, **Bharat Kale**, Nitin Chavan, Sunil Kadam "Stress Analysis of Door and Window of Boeing 787 Passenger Aircraft Subjected to Biaxial Loading", International Journal of Engineering Research & Technology (IJERT), ISSN 2278-0181, www.ijert.org, Vol. 3, Issue 3, March 2014
- ❖ Jyoti Anbhore, O.G. Sonare, **Bharat Kale**. "Vibration Powered Piezoelectric Generator Using Finite Element Method " International Journal of Mechanical and Production Engineering ISSN: 2320-2092, Volume- 1, Issue- 5, Nov-2013
- ❖ Kiran S. Bhole, **B. S. Kale**, P.D.Deshmukh, O.G.Sonare, and Ajay Akhare, "Computational Analysis of Rim Thickness Effect on Crack Propagation Path in Gear", International Journal of Technology and Engineering System (IJTES): Nov–Dec 2011- Vol. 4, No7
- ❖ Kiran S. Bhole, **B. S. Kale**, P. D. Deshmukh, and O. G. Sonare, "Numerical Analysis and Investigation of Aluminum Alloys in Electromagnetic Metal Forming Process", International Journal of Technology and Engineering System (IJTES): Jan –March 2011-, pp 98-102, Vol.2, No 1

- 16.
- Bharatbhushan S. Kale, Kiran S. Bhole, Sachin Mastud, Nilesh Raykar, Chetna Sharma, Prashant Deshmukh. "Anisotropic approach to control viscous fingering pattern generated in lifting plate Hele-Shaw cell" International Design Engineering Technical Conferences and Computers and Information in Engineering Conference IDETC/CIE2022, August 14-17, 2022, St. Louis, Missouri, USA. ( ASME 2022). Received a Best Paper Award
  - Sanket S. Devkare, Kiran S. Bhole, Bharatbhushan S. Kale, Chetna Sharma. "Control of viscous fingering of Bingham plastic fluid in lifting plate Hele-Shaw cell." Materials Today: Proceedings 28 (2020): 1920-1926.
  - Bharatbhushan S. Kale, and Kiran Bhole. "Parametric Analysis for forming meso fractals from nanoparticle seeded resin in Hele-Shaw cell." In IOP Conference Series: Materials Science and Engineering, vol. 577, no. 1, p. 012154. IOP Publishing, 2019. Scopus Indexed.
  - Ajinkya Ani Singare, Bharatbhushan S. Kale, and Kiran Suresh Bhole. "Experimental Characterisation of Meso-Micro Fractals from Nanoparticle Seeded Resin in Lifting Plate Hele-Shaw Cell." Elsevier's Materials Today: Proceedings 5, no. 2018): 24213-24220. Scopus Indexed
  - Nikhil Desai and Bharatbhushan Kale. "Performance evaluation of quarter car model semi active suspension system with fuzzy logic system." 2017 International Conference on Advances in Computing, Communication and Control (ICAC3). IEEE, 2017.



- Neha K. Mishra and Bharatbhushan S. Kale. "Fabrication of tapered and conductive microcantilever." 2017 International Conference on Nascent Technologies in Engineering (ICNTE). IEEE, 2017.
- Sachin Oak, Vinod Belwanshi, Kedarnath Rane, Kiran Bhole, Bharatbhushan Kale. "Comparison of binary, ternary and quaternary shape memory alloys and techniques to enhance their mechanical properties: A focused review" accepted in Elsevier's Materials Today Proceedings.

**17. Book**

Nil

**18. Invited Lectures in FDP/ STTP:**

1. Delivered an expert talk on "A Novel Technique of Microfabrication" in online webinar series organised by the Department of Engineering Sciences, Ramrao Adik Institute of Technology, Nerul, Navi Mumbai on 14th Jan 2021.
2. Delivered an expert talk on "Future of Mechanical and Chemical Engineering" organised by the first-year Department, Anuradha Engineering College, Chikhali, Dist. Buldhana on 9th Feb 2021.

**19. International Conference Technical Program Committee Member / Reviewer**

Reviewer for International Conference

- International Conference On "Industry 4.0 - Nascent Technologies and Sustainability for 'Make in India' Initiative" dated 22<sup>nd</sup> - 23<sup>rd</sup> December 2022.

Reviewer for International Journal :

- International Journal on Interactive Design and Manufacturing (IJIDeM), Publisher: Springer

Reviewer for:

- Elsevier's Materials Today: Proceedings 2022

**20. Patents**

A design Patent filed on "Experimental Setup for Study of fractal formation on Curved (Conical, Spherical) Surfaces in Lifting Plate Hele-Shaw Flow."

Design Patent Application No. 340352-001, 9<sup>th</sup> March 2021