

# Nilesh D. Pawar

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## EDUCATION

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- Jan 2014 - Nov 2019 **Indian Institute of Technology Delhi**, India  
Ph.D. in Mechanical Engineering  
*Dissertation Title:* Growth dynamics of droplets on a solid surface during dropwise condensation.
- Aug 2011 - May 2013 **Indian Institute of Technology Kharagpur**, India  
M.Tech in Mechanical Engineering (Thermal Science and Engineering)
- Aug 2006 - June 2010 **Government Collage of Engineering Karad**, India  
B.E. in Mechanical Engineering

## WORK EXPERIENCE

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- 08 July 2020 - Present **Assistant Professor of Mechanical Engineering**  
BITS Pilani, K. K. Birla Goa Campus.
- 27th June - 27th July 2024 **Visiting Professor of Mechanical Engineering**  
National University of Singapore
- July 2019 - April 2020 **Assistant Professor of Mechanical Engineering**  
Walchand Collage of Engineering Sangli.
- June 2010 - June 2011 **Trainee Estimation Engineer**  
Shapoorji & Pallonji Fabricators Pvt. Ltd.

## TECHNICAL SKILLS

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**Programming:** C/C++, Matlab, OpenMP.  
**Software:** Matlab, AutoCAD, ANSYS Fluent, L<sup>A</sup>T<sub>E</sub>X.

## JOURNAL PUBLICATIONS

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7. Parag P Mangave, Nilesh D Pawar, Ranjit S Patil, Vishal V Patil, and Sudarshan Kumar. Energy and exergy analysis of a si engine fueled with anisole and isobutyl acetate with super-premium gasoline. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, page 09544062241296924, 2024
6. Nilesh D Pawar and Ramchandra D Narhe. Growth dynamics of breath figures on phase change materials: a numerical study. *The European Physical Journal Special Topics*, pages 1–7, 2023
5. RD Narhe, Nilesh D Pawar, MD Khandkar, AG Banpurkar, and AV Limaye. Numerical simulations of growth dynamics of breath figures on phase change materials: The effect of accelerated coalescence due to droplet motion. *EPL (Europhysics Letters)*, 135(3):36002, 2021
4. Nilesh D Pawar, Supreet Singh Bahga, Sunil R Kale, and Sasidhar Kondaraju. Numerical investigation of multiple droplet growth dynamics on a solid surface using three-dimensional lattice Boltzmann simulations. *AIP Advances*, 11(4):045116, 2021
3. Nilesh D Pawar, Supreet Singh Bahga, Sunil R Kale, and Sasidhar Kondaraju. Symmetric and asymmetric coalescence of droplets on a solid surface in the inertia-dominated regime. *Physics of Fluids*, 31(9):092106, 2019
2. Nilesh D Pawar, Sunil R Kale, Supreet Singh Bahga, Hassan Farhat, and Sasidhar Kondaraju. Study of microdroplet growth on homogeneous and patterned surfaces using lattice Boltzmann modeling. *Journal of Heat Transfer*, 141(6), 2019
1. Manjinder Singh, Nilesh D Pawar, Sasidhar Kondaraju, and Supreet Singh Bahga. Modeling and simulation of dropwise condensation: a review. *Journal of the Indian Institute of Science*, 99(1):157–171, 2019

## BOOK CHAPTERS

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2. Parag P Mangave, Nilesh D Pawar, Ranjit S Patil, Vishal V Patil, and Paramvir Singh. A comparative study of the performance and emissions of si engine fueled with isopropyl acetate, n-butyl acetate, and premium-gasoline. In *International Conference on Advances in Energy Research*, pages 273–283. Springer, 2023
1. Parag P Mangave, Vishal V Patil, Nilesh D Pawar, and Ranjit S Patil. Experimental investigations on emissions and performance of spark ignition engine fuelled with butanol–pentane–gasoline blends. In *Conference on Fluid Mechanics and Fluid Power*, pages 241–251. Springer, 2022

## PAPERS IN REFEREED CONFERENCE PROCEEDINGS

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4. Babaso N Naik, Nilesh D Pawar, Mayank S Dadge, Sarthak V Shaha, Yugal S Zope, Sakshi S Kendale, and Shweta S Virkar. A simulation to predict the behavior of wet cooling tower in a steam power plant. In *AIP Conference Proceedings*, volume 2863. AIP Publishing, 2023
3. Nilesh D Pawar, Supreet Singh Bahga, Sunil R Kale, and Sasidhar Kondaraju. Study of inertial coalescence of droplets on a solid substrate using lattice Boltzmann modelling. In *Proceedings of The Joint Canadian Society for Mechanical Engineering and CFD Society of Canada International Congress 2019*, 2019
2. Nilesh D Pawar and Sasidhar Kondaraju. Effect of surface wettability on dropwise condensation using lattice Boltzmann method. In *International Conference on Micro/Nanoscale Heat Transfer*, volume 49651, page V001T04A006. American Society of Mechanical Engineers, 2016
1. Nilesh D Pawar and Sasidhar Kondaraju. Microdroplet growth during condensation on mix-wettability surfaces. In *Proceedings of the 23rd National Heat and Mass Transfer Conference and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference*, 2015

## INVITED/KEYNOTE TALKS & SEMINAR

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1. “Growth dynamics of droplets on a solid surface during dropwise condensation,” Keynote Speaker, *3rd International Multidisciplinary Conference on Recent Innovations in Science, Engineering, Management, and Humanities*, October 26, 2024.
2. “Finite difference method,” Invited Talk, *Five-day skill development workshop on CFD, Pandit Deendayal Energy University - PDEU, Gandhinagar*, August 24, 2024.
3. “Lattice Boltzmann method,” Invited Talk, *Five-day skill development workshop on CFD, Pandit Deendayal Energy University - PDEU, Gandhinagar*, August 19, 2024.
4. “Lattice Boltzmann method and its applications”, Invited Talk, *Two-week international online FDP on Experimental and Numerical Methods for Mechanical Engineering, G. B. Pant Institute of Technology and Science, Pauri Garhwal*, August 26, 2020.

## SPONSORED RESEARCH PROJECTS

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S. No.	Project Title	PI/co-PI	Funding Agency	Budget (in lakh Rs.)	Status
1	Manipulation of Particles in Microchannels for Point-of-care Diagnostic Devices (19/10/23 - 18/10/26)	PI	SERB-SURE	19.3	Ongoing
2	Numerical Investigation of Inertial Focusing of Deformable particles in microchannels	PI	BITS-ACG	10	Completed
3	Numerical Investigation of nucleation of droplets on a solid surface during dropwise condensation	PI	BITS-RIG	2	Completed

## CONSULTANCY PROJECTS

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S. No.	Project Title	PI/co-PI	Funding Agency	Budget (in lakh Rs.)	Status
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1	CFD analysis of wind flow pattern over helicopter deck in presence of an obstructions (07/10/24 - 01/03/25)	Co-PI	INS HANSA, INDIAN NAVY	5.85	Ongoing
2	Thermal analysis of a wax heating system	PI	Quality Candle Works	0.531	Completed

## ONGOING THESIS SUPERVISION

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*Ph.D.*

1. Sruthi Kumar, Manipulation of particles in microchannels for point-of-care diagnostic devices.
2. Parag Mangave (Part-time), Experimental investigations on the effect of biofuel-gasoline blends in SI engines.

## ADMINISTRATIVE EXPERIENCE

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### **Institute Level, BITS Pilani, Goa Campus**

1. 01/01/2024 - 31/12/2025: Warden DH2 hostel
2. 21st Dec 2021 - 20th Dec 2022: Library committee member

### **Department Level, Dept. of Mechanical Engineering, BITS Pilani, Goa Campus**

1. AY 2024-25 - Horizon Seminar Series Coordinator
2. 27th June 2024 - 27th June 2026: DRC member

## COURSES TAUGHT

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- ME F220: Heat Transfer
- ME G631: Advanced Heat Transfer
- ME G535: Advanced Engineering Mathematics
- ME G515: Computational Fluid Dynamics
- ME F217: Applied Thermodynamics Lab