

Name of Teaching Staff	:	Dr. Arijit Sinhababu	
Designation	:	Assistant Professor	
Department	:	Mechanical Engineering	
Date of Joining the Institution	:	03 August 2026	
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Google Scholar Link:		https://scholar.google.com/citations?user=QnK5Jd0AAAAJ	
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ORCID		https://orcid.org/0000-0002-7126-6629	
Publons Researcher ID:		REZ-8767-2026 (Web of Science ResearcherID)	
Qualifications with Class / Grade	:	1. Ph.D. in Mechanical Engineering, IIT Bhubaneswar (2021) 2. M.Tech. in Mechanical Engineering, IIT Bhubaneswar (2014) – CGPA: 8.59 / 10 3. B.Tech. in Mechanical Engineering, West Bengal University of Technology (2012) – CGPA: 8.28 / 10 4. Class XII (WBCHSE), Chandrakona Jirat High School (2008) – 79.60 % 5. Class X (WBBSE), Chandrakona Jirat High School (2006) – 86.88 % 6. GATE 2012 (Graduate Aptitude Test in Engineering) – Qualified	
Total Experience in Years	:	Teaching: 1 year 8 months (as on October 2026) • Assistant Professor, D. J. Sanghvi College of Engineering, Mumbai (03 Aug 2026 – Present) • Assistant Professor (Tenure), Production Engineering, VJTI Mumbai (Jun 2025 – Aug 2026) • Ad-hoc Faculty, Production Engineering, VJTI Mumbai (Feb 2025 – Jun 2025) Research: 3 years (Post-doctoral) • Institute Postdoctoral Fellow, Mechanical Engineering, IIT Bombay (Jan 2022 – Jan 2025) • Doctoral Research Scholar, School of Mechanical Sciences, IIT Bhubaneswar (2014 – 2021)	
Papers Published in Journal:	:	1. Sinhababu, A. and Karagadde, S. (2025). A FFT-based phase-field framework for simulating dendritic growth in binary alloy. <i>Journal of Computational Physics</i>, 522, 113600. DOI: 10.1016/j.jcp.2024.113600 2. Sinhababu, A. and Bhattacharya, A. (2022). A pseudo-spectral based efficient volume penalization scheme for Cahn–Hilliard equation in complex geometries. <i>Mathematics and Computers in Simulation</i>, 199, 1–24. DOI: 10.1016/j.matcom.2022.03.015 3. Sinhababu, A. and Bhattacharya, A. (2022). A fixed grid based accurate phase-field method for dendritic solidification in complex geometries. <i>Computational Materials Science</i>, 202, 110973. DOI: 10.1016/j.commatsci.2021.110973	

Papers Presented in Conferences	4. Sinhababu, A. and Ayyalasomayajula, S. (2021). Accuracy and computational efficiency of dealiasing schemes for the DNS of under resolved flows with strong gradients. <i>Mathematics and Computers in Simulation</i>, 182, 116–142. DOI: 10.1016/j.matcom.2020.10.020 5. Sinhababu, A., Bhattacharya, A. and Ayyalasomayajula, S. (2021). An efficient pseudo-spectral based phase field method for dendritic solidification. <i>Computational Materials Science</i>, 186, 109967. DOI: 10.1016/j.commatsci.2020.109967 6. Sinhababu, A. and Ayyalasomayajula, S. (2020). An improved dealiasing scheme for the fourth-order Runge–Kutta method: Formulation, accuracy and efficiency analysis. <i>International Journal for Numerical Methods in Fluids</i>, 93, 559–589. DOI: 10.1002/fld.4898 1. Sinhababu, A. and Ayyalasomayajula, S. “An efficient and accurate de-aliasing scheme based on RK4 temporal scheme.” <i>7th International & 45th National Conference on Fluid Mechanics and Fluid Power (FMFP), IIT Bombay, December 2018.</i> 2. Sinhababu, A. and Ayyalasomayajula, S. “Improving shock resolving ability via de-aliasing for DNS of viscous Burgers’ equation.” <i>6th International & 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP), MNNIT Allahabad, December 2016.</i> 3. Sinhababu, A. and Ayyalasomayajula, S. “De-aliasing schemes for pseudo-spectral solution of the viscous Burgers’ equation.” <i>IMA Conference on Numerical Methods for Simulation, University of Oxford, UK, September 2015.</i> 4. Ayyalasomayajula, S., Sinhababu, A. and Bhumkar, Y. G. “Effectiveness of the pseudo-spectral and high order compact schemes in capturing strong shocks.” <i>IMA Conference on Numerical Methods for Simulation, University of Oxford, UK, September 2015.</i>
Area of Specialization	Computational Fluid Dynamics (CFD); Direct Numerical Simulation (DNS) of turbulent and shock-dominated flows; Pseudo-spectral and high-order numerical methods; Phase-Field modelling of solidification and microstructure evolution; Multiphase and interfacial flows in complex geometries; High-performance scientific computing.
Professional Memberships	:
Subjects Taught	UG Level: <i>D. J. Sanghvi College of Engineering</i> • Data Analytics • Data Analytics Lab • Operations Research • Electric Vehicle Lab • Engineering Graphics <i>VJTI Mumbai</i> • Operations Research • Lean Manufacturing • Supply Chain Management • Computer-Aided Engineering Lab PG Level: —

Projects Guided	:	<u>UG Level:</u> Co-supervised postgraduate student projects, Production Engineering, VJTI Mumbai (2025 – 26) <u>PG Level:</u> —	
Recommended Students for Higher Education		<u>Name of the Student</u>	<u>University/Industry</u>
Institute/Department Responsibility handled:		Teaching Assistant, Makers Space Laboratory, IIT Bombay (two semesters)	