Dr. Anand Panditrao Chavan

Diganand Niwas, Shivneri Nagar, Bank Colony,
HUDCO, New Nanded-431603, Maharashtra, India
Mobile: +91 8600267704 **Email:** apchavan@sggs.ac.in
Linkedin: linkedin.com/in/dr-anand-chavan-7ab07357
Google Scholar: https://scholar.google.com/citations?user=GYkEd_0AAAAJ&hl=en

A detail-oriented and passionate researcher with experience in computational fluid dynamics, reactor designs, high temperature high pressure batch and pilot plants. Prepared to excel in the field of Chemical Engineering by exploring new research areas and contributing to organizational objectives.

Professional Experience

1. **Shri Guru Gobind Singhji Institute of Engineering and Technology (SGGSIE&T), Nanded** **(Oct 2023 – Present)**
   Designation: Assistant Professor
2. **Hindustan Petroleum Green R&D Centre (HPGRDC), Bengaluru (June 2022 – Sept. 2023)**
   Designation: Research Associate
   Project Topics:
   1. CFD Simulation of Bubble Column.
   2. CFD Simulation of Continuous Catalytic Reformer.
   3. NHT and DIU Reactor Effluent Pipe Leak: CFD Modeling.
   4. Diesel Hydro-treating for Ultra Low Sulfur Diesel (ULSD) Production.

3. **CHEMEPT Solutions, Mumbai. (June 2021 – June 2022)**
   Designation: Senior Technical Consultant
   Project Topics:
   1. **CFD Simulation of Kenics and GV Static mixer.**
   2. **Greenhouse Gas (GHG) Assessment of IOCL, Dighboi.**
   3. **Preparation of Techno-Economic Feasibility Report (TEFR) for setting up Water Soluble and Nano Urea (Liquid) Fertilizer Plant at RCF.**

4. **Institute of Chemical Technology-Indian Oil Odisha Campus, Bhubaneswar** **(Sep 2021 – May 2022)**
   Designation: Post-Doctoral Fellow
   Research Supervisor: Prof. B. N. Thorat [Department of Chemical Engineering]
   Project Topic: Comparison of Various Dehydration Techniques with the help of Kinetics, Quality, Socio and Techno-economic Parameters.

5. **Adya Enterprise, Govandi (E), Mumbai. (Oct 2014 – Nov 2015)**
   Designation: Process Engineer
   Responsibility: Validation of an In-house Developed Algorithm to Predict Essential Design Parameters of Process Equipment.

6. **Institute of Chemical Technology, Matunga (E), Mumbai (Aug 2013 – Sep 2014)**
   Designation: Research Assistant
   Research Supervisor: Dr. C. S. Mathpati [Department of Chemical Engineering]
   Project Topic: Design Aspect of Two Opposed Jet Micro-extractor: Experimental and CFD.

Internship

1. **Lodz University of Technology, Poland (International Scholarship Exchange Program)** **(June 2019-July 2019)**
   Project Topic: CFD Simulation of Spray Dryer.
   Research Supervisor: Prof. Ireneusz Zbicinski

[Department of Process and Environmental Engineering]

2. **Department of Chemistry, Tezpur University, Assam.** **(Dec 2010- Jan 2011)**
   Project Topic: Limestone Defluoridation of Water in the Presence of Acetic and Citric Acid.
   Research Supervisor: Prof. R. K. Datta [Department of Chemistry]

Education

Ph.D. (Tech.) Chemical Engineering **(Nov 2015-July 2021)**
Institute of Chemical Technology, Mumbai.
Research Topic: Modeling, Simulation and Techno-economic Analysis of Dryers
Research Supervisor: Prof. B. N. Thorat [Department of Chemical Engineering]
Chapters:
1. CFD Modeling and Experimental Study of Solar Conduction Dryer
2. CFD Simulation of Solar Grain Dryer
3. Mathematical Analysis of Solar Conduction Dryer using Reaction Engineering Approach
4. Techno-economic Comparison of Selected Solar Dryers-A Case Study

Master of Chemical Engineering **(CGPA 7.66/10) (2011-2013)**
Institute of Chemical Technology, Mumbai.
Research Topic: Intensification of Chemical Processing using Cavitational Reactors
Research Supervisor: Prof. P. R. Gogate [Department of Chemical Engineering]

Bachelor of Technology (Chemical Engineering) **(Percentage 66.85) (2007-2011)**
College of Engineering and Technology, SGB Amravati University, Akola.
Dissertation Topic: Limestone Defluoridation of Water in the Presence of Acetic and Citric Acid.
Research Supervisor: Dr. S. L. Bhagat [Department of Chemical Engineering]

Computer Skills

1. Pre-processing/mesh generation Tools: SpaceClaim, Design Modeler, ANSYS Meshing, Fluent Meshing.
2. Solver Tool: ANSYS Fluent.
3. Post-processing Tool: ANSYS CFD-Post.
4. Process Simulation Tool: Aspen Plus.

Instrumental Skills

LT and HT-SIMDIST (Low Temperature and High Temperature Simulated Distillation), DHA (Detailed Hydrocarbon Analyzer), RGA (Refinery Gas Analyzer)

Extra-Curricular Activities

1. Active member of National Service Scheme (NSS) (2007-2011)
2. Qualified Graduate Aptitude Test in Engineering (GATE) (2011)
3. Event coordinator of 10-14th World Forum for Crystallization, Filtration and Drying (WFCFD) (2016-2020)
4. Organizing student secretary of SCHEMCON (2018)
5. Completed the NPTEL-AICTE Faculty Development Programme, "Aspen Plus Simulation Software-A Basic Course for Beginners with 88 % (2024)
6. Completed the AICTE Eight Modules of National Initiative for Technical Teachers Training (2024)

List of Publications in Peer-Reviewed Journals

1. **A. P. Chavan,** P. R. Gogate, **Ultrasound assisted synthesis of epoxidized sunflower oil and application as plasticizer,** Journal of Industrial and Engineering Chemistry, Volume 21, 2015, Pages 842-850, https://doi.org/10.1016/j.jiec.2014.04.021

2. **A. P. Chavan**, V. Vitankar, A. Mujumdar, B. Thorat, **Natural convection and direct type (NCDT) solar dryers: A Review**, Drying Technology, Volume 39 (13), 2021, Pages 1969-1990, https://doi.org/10.1080/07373937.2020.1753065.
3. **A. P. Chavan**, B. Thorat, **Mathematical analysis of solar conduction dryer using reaction engineering approach,** International Journal of Chemical Reactor Engineering, Volume 18 (5-6), 2020, Pages -, https://doi.org/10.1515/ijcre-2019-0220.
4. **A. P. Chavan**, V. Vitankar, B. Thorat, **CFD modeling and experimental study of solar conduction dryer,** Drying Technology, Volume 39 (8), 2021, Pages 1087-1100, https://doi.org/10.1080/07373937.2020.1846051
5. **A. P. Chavan**, V. Vitankar, N. Shinde, B. Thorat, **CFD simulation of solar grain dryer**, Drying Technology, Volume 39 (8), 2021, Pages 1101-1113, https://doi.org/10.1080/07373937.2020.1863422
6. **A. P. Chavan**, B. Thorat, **Techno-economic comparison of selected solar dryers- a case study.** Drying Technology, Volume 40 (10), 2021, Pages 2105-2115, https://doi.org/10.1080/07373937.2021.1919141
7. D. P. Ghumra, O. Rathi, T. A. Mule, V. S. Khadye, **A. P. Chavan,** F. C. Barba, S. Main, A. Odaneth, B. Thorat, **Technologies for Valorisation of Municipal Solid Wastes.** Biofuels, Bioproducts and Biorefining, Volume 16 (3), 2022, Pages 877-890, https://doi.org/10.1002/bbb.2340
8. **A. P. Chavan**, A. Sikarwar, V. Tidke, B. Thorat, **Augmenting natural convection and conduction based solar dryer.** IDS 2018, 21st International Drying Symposium Proceedings, Pages 1357-1364, https://doi.org/10.4995/IDS2018.2018.7813

Oral Presentations (International Conferences)

1. **A. P. Chavan**, V. Vitankar, B. Thorat, **"CFD modeling and experimental study of solar conduction dryer,"** presented at 9th Asia-Pacific Drying Conference (ADC), September 24 - 26, 2017, Wuxi (China)
2. **A. P. Chavan**, A. Sikarwar, V. Tidke, B. Thorat, **"Augmenting natural convection and conduction based solar dryer,"** presented at 21st International Drying Symposium (IDS), September 11 – 14, 2018, Valencia (Spain)
3. **A. P. Chavan**, B. Thorat, **"Mathematical analysis of solar conduction dryer using reaction engineering approach,"** presented at 3rd Nordic Baltic Drying Conference (NBDC), June 12 – 14, 2019, Saint-Petersburg (Russia)
4. K. Pai**, A. P. Chavan**, B. Thorat, **"New theories discerning drying kinetics,"** presented at 3rd Nordic Baltic Drying Conference (NBDC), June 12 – 14, 2019, Saint-Petersburg (Russia)

Personal Information

Date of Birth: February 13th, 1990.
Marital Status: Married.
Permanent Address: C/O Shri. P. D. Chavan, Diganand Niwas, Shivneri Nagar, HUDCO, New Nanded-431603, Maharashtra, India.