Dr. Pooja Dutta

curriculum vitae

Department of Mechanical Engineering
Jorhat Engineering College, Jorhat
India
(+91) 6002505807
poojadutta132@gmail.com

Research Interests

Solar Drying systems, Solar Air Heater, 4E analyses, Techno-economic analysis, Sustainable Energy.

Education

2024 **PhD, Mechanical Engineering**, *Tezpur University*, Tezpur, India,
Thesis title: Experimental Performance Analysis of an improved Solar Dryer for Drying of Garcinia pedunculata and Curcuma amada.

2016 **Master of Technology, Mechanical Engineering**, *Tezpur University*, Tezpur, India,
Thesis title: Thermohydraulic Study of V–Corrugated Heat Exchanger.

2013 **Bachelor of Engineering, Mechanical Engineering**, *Assam Engineering College*, Assam, India,

Research Experience

- Energy, exergy, economic and environmental study of a solar dryer.
- Performance study of solar dryer with and without sensible heat storage for drying.
- Drying Kinetics of agricultural products dried in a solar dryer.
- Energy, exergy, economic and environmental study of a solar air heater.

Teaching Experience

- **Assistant Professor**in the Department of Mechanical Engineering, Jorhat Engineering College, Jorhat, Assam from 13/02/2025 to till date.
- **Guest Faculty** in the Department of Mechanical Engineering, Tezpur University, Tezpur, Assam from 09/10/2023 to 31/12/2024.
- **Assistant Professor (Contractual)** in the Department of Mechanical Engineering, Bineswar Brahma Engineering College, Kokrajhar, Assam from 07/10/2021 to 22/09/2023.
- **Teaching Assistant** in the Department of Mechanical Engineering, Tezpur University, Assam from July 2016 to August, 2021.
- **Teaching Assistant** in the Department of Mechanical Engineering, Tezpur University, Assam from July, 2015 to June, 2016.

Computer skills

Modelling Tools: ANSYS, AutoCAD, ProE

Visualization Tools	OriginLab, Techplot
Programming	MATLAB
Writing	LaTeX, MS office

Scholastic Achievements

- Completed a teaching course (online) from Harvard University.
- Have completed PhD on the topic, "A Study on Thermal Performance Analysis of a Solar Dryer for Drying of Garcinia Pedunculata", linked to an AICTE scheme, "RESEARCH PROMOTION SCHEME For North Eastern Region (RPS-NER)" worth 17.5 Lakh.
- Awarded best paper in the domain of Thermal, entitled "Energy Analysis of a Mixed-mode Corrugated Aluminium Alloy (AlMn1Cu) Plate Solar Air Heater" during ICAMEN, 2021.
- Awarded institutional scholarship, Tezpur University from 2016 to 2019.
- Awarded GATE scholarship, AICTE from 2014 to 2016.
- Awarded the "ANUNDORAM BOROOAH AWARD 2006" by The Planning and Development Department, Government of Assam for performance in the class 10 board examinations.
- Awarded North Eastern Council (N.E.C), Govt of India scholarship from 2009 to 2013.
- Student representative in Department Advisory Committee, Tezpur University from 2014-16.
- Volunteer of Vittiya Saksharta Abhiyan announced by Govt. Of India and organised by Tezpur University from 2016 to 2017.
- Volunteer in Core Volunteer Committee during XV Convocation, Tezpur University held on 21.12.17.
- Awarded first prize for Group Dance in XIX Annual Meet, 2015-2016, Tezpur University.
- Organized the event FOOTLOOSE in Pyrokinesis, Assam Engineering College 2012.
- Awarded first position in Fabrica-III organized by Technex'2011 IT-BHU in association with Robosapiens India.
- Seminar on innovation and intellectual property right (IPR), 2012.

Languages

English	Professional working proficiency
Hindi	Limited working proficiency
Assamese	Native

List of publications

Journals

1. **P. Dutta**, H. Das, P.P. Dutta, P. Kalita, Evaluation of an improved indirect solar dryer for Curcuma Amada without and with stone chips as thermal energy storage: An investigation on kinetics, energy, exergy, quality and economic aspects, Journal of Energy Storage. 79:110199. (2024) https://doi.org/10.1016/j.est.2023.110199. **[IF:8.9, Q1]**
2. **P. Dutta**, P.P. Dutta, P. Kalita, Energy and exergy study of a novel multi-mode solar dryer without and with sensible heat storage for Garcinia pedunculata, Energy Sources, Part A Recover. Util. Environ. Eff. 9266–9282. (2023) https://doi.org/10.1080/15567036.2023.2234325. **[IF:2.9, Q1]**
3. **P. Dutta**, P.P. Dutta, P. Kalita, Thermal performance study of a PV - driven innovative solar

dryer with and without sensible heat storage for drying of Garcinia Pedunculata, Environ. Sci. Pollut. Res. (2023). https://doi.org/10.1007/s11356-023-27041-x. [**IF:5.8, Q1**]

4. **P. Dutta**, P.P. Dutta, P. Kalita, Thermal performance studies for drying of Garcinia pedunculata in a free convection corrugated type of solar dryer, Renew. Energy. 163 (2021) 599–612. https://doi.org/10.1016/j.renene.2020.08.118. [**IF:9, Q1**]
5. H. Das, **P. Dutta**, P.P. Dutta, P.K. Choudhury, Experimental analysis of a solar air heater using waste mild steel chips as a sensible heat storage material, Environ. Sci. Pollut. Res. (2024) 1-23. https://doi.org/10.1007/s11356-024-35415-y. [**IF:5.8, Q1**]

Book chapters

1. **P. Dutta**, P. P. Dutta, P. Kalita. Experimental investigation of thin layer drying kinetics of Garcinia pedunculata dried in a forced convection environmental chamber. In Advances in Science Technology Vol II, 2020, McGraw Hill Education (India), pp. 161-165

Conference proceedings

1. **P. Dutta**, P.P. Dutta, P. Kalita, P. Goswami, P.K. Choudhury, Energy analysis of a mixed-mode corrugated aluminium alloy (AlMn1Cu) plate solar air heater, Mater. Today Proc. (2021) 1–6. 10.1115/GTINDIA2019-2351.
2. **P. Dutta**, P.P. Dutta, P. Kalita (2019, April). Thermohydraulic investigation of different channel height on a corrugated heat exchanger. In AIP Conference Proceedings, vol. 2091, no. 1, p. 020011. AIP Publishing LLC, 2019.
3. **P. Dutta** and D. Datta, "Bi-level problem as a plain multi-objective optimization problem: A preliminary study," 2017 International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS), Allahabad, India, 2017, pp. 69-73, doi: 10.1109/AMIAMS.2017.8069191.
4. **P. Dutta**, A. Das, P.P. Dutta, Thermohydraulic Study of V-Corrugated Heat Exchanger. In Sixth International Congress on Computational Mechanics and Simulation (ICCMS), pp. 636-639, 2016.
5. **P. Dutta**, P.P. Dutta, A. Das, P. Kalita, Heat transfer and pressure drop in V– corrugated channels of different heights applicable to a waste energy recovery compact heat exchanger, in 5th Annual International Conference on Sustainability (SUSCON), pp.28, 2016.

Reviewer for international journals

- Journal of Energy Storage
- Renewable Energy