

BISHAL PODDER

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<https://scholar.google.com/citations?user=nlHr5ZwAAAAJ&hl=en>



Fields of Research Interest:

Mechanical Engineering, Automotive Engineering, Renewable Energy Technologies (Solar thermal, Solar PV/T technologies, Hybrid energy systems, Energy storage systems)

Subjects of Interest:

- Thermodynamics
- IC Engines
- Heat Transfer
- Fluid Mechanics
- Renewable energy
- Energy management
- Refrigeration and Air Conditioning
- Building Services

Academic Qualification:

Qualification	Specialization /Subjects	Passing Year	Institution
PhD	Solar Photovoltaic thermal power generation	2021	NIT Silchar
M.Tech	Thermal &Fluid	2015	NIT Silchar
B.E	Mechanical	2010	Jorhat Engineering College, Assam

Title of PhD thesis:

“Experimental and Numerical Investigation of an Optimized Solar Photovoltaic/thermal water collector with a Modified Absorber Design”.

Title of M.Tech thesis:

“Analytical and Experimental Studies of Flat Plate Collector for Solar Water Heating System for the Meteorological Condition of Silchar, Assam”

Industrial Experience:

- Worked as a **Mechanical Engineer** with **M/s Patel Engineering Ltd.**, (60MW, Tuirial Hydroelectric power project) in Mizoram from August 2010 – January 2012 (17 months)
- Worked as a **Quality Manager** in Solar Regional Testing Centre (RTC) in NIT Silchar from 2014 to 2017.

Teaching Experience:

- Worked as an Assistant Professor in Shankara Institute of Technology, Jaipur from 30/07/2022 to 01/11/2022
- Worked as an Assistant Professor in Hi-Tech Institute of Technology, Aurangabad from 22/11/2022 to 30/06/2023
- Presently working as an Assistant Professor in Royal Global University, Assam

Training and Workshops/Short term courses attended:

- Indo-German Capacity Building Course in the domain of Concentrated Solar Thermal Power Plant technology organized at **NTPC Energy Technology Research Alliance (NETRA) and DLR Germany** in Greater Noida, UP from 24th February to 5th March, 2020.
- Five days workshop on “**Fundamentals of Energy Storage**” held in the Department of Mechanical Engineering, NIT Silchar from 23th -27th July, 2018
- One week workshop on “**Frontiers in Solar Technologies, 2018**” under TEQIP-III, held in the Department of Mechanical Engineering, NIT Silchar from 24th -28th September, 2018.
- Laboratory Quality Management Systems and Internal Audit as per ISO/IEC-17025 and NABL Requirement Training from 10 -13 May, 2016 at **Centre for Electronics Test Engineering, STQC Directorate**, Salt Lake ,Kolkata, West Bengal.
- GIAN course on “**Application of Microfluidics and Nano fluidics in energy and health care**” organized by IIT Kharagpur, from 16th-27th May, 2016.
- Business skill development programme (BSDP) for small scale industries under MSME organized by **Jorhat Engineering College**, Assam.
- Mechanical maintenance of pump station, **Oil India Ltd**, Jorhat, Assam

Publications:

1. **Podder B.**, Biswas A., Saha S. Multi-objective optimization of a small sized solar PV-T water collector using controlled elitist NSGA-II coupled with TOPSIS, *Solar Energy*, Volume 230, 2021, Pages 688-702, ISSN 0038-092X. **(SCI) Impact factor: 7.188** <https://doi.org/10.1016/j.solener.2021.10.078>
2. **Podder B.**, Biswas A. Performance Investigation of an Innovative Design of a Single Glazed Solar PV/T Water Collector for the Climatic Condition of a Site in North East India: An Experimental Study. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* (SCI) **(SCI) Impact factor: 3.447.** <https://doi.org/10.1080/15567036.2019.1677809>
3. Singh M.A., **Podder B.**, Biswas A., Sharma K.K. Site specific tailoring of an optimal design of renewable energy system for remote water supply station. *Sustainable Energy Technologies and Assessments*, 36 (2019) 100558-18 **(SCI) Impact factor:7.63** <https://doi.org/10.1016/j.seta.2019.100558>
4. **Podder B.**, Das S., Biswas A. Numerical analysis of a small sized water based solar photovoltaic-thermal collector. *International Journal of Green energy*,(2022), (SCI). **Impact factor:3.20** <https://doi.org/10.1080/15435075.2021.2023881>
5. **Podder B.**, Biswas A. Experimental Analysis of the Performance of a Solar Photovoltaic-thermal (PV/T) Water Collector with a Modified Absorber Design for the Climatic Condition

of Assam, India. *Journal of Scientific & Industrial Research*, Vol 78, July 2019, pp. 437-441 (SCI) **Impact factor: 1.056** <http://nopr.niscair.res.in/handle/123456789/48786>

6. Nath B., Podder B., Nath S., Biswas A. Thermal Performance of a Solar Evacuated Tube Collector using TiO₂-H₂O nanofluid- An Experimental Study. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* (SCI) **Impact factor: 3.447.**
7. Energetic and exergetic study of a flat plate collector based solar water heater - investigation of the absorber size. (Under review in EAI Endorsed Transactions on Energy Web)
8. Ranjan, A., Podder, B., Das, B. *et al.* Computational investigation of an innovative solar photovoltaic thermal collector with spiral shaped absorber using bifluid coolant. *Int. J. Environ. Sci. Technol.* (2023). <https://doi.org/10.1007/s13762-023-05088-0>
9. Chanda, Prayag Raj, Bishal Podder, Agnimitra Biswas, and Anal Ranjan Sengupta. "Advancements in solar assisted drying technologies: A comprehensive review post 2017." *Journal of Stored Products Research* 104 (2023): 102190.

Conferences (National)

1. Dutta D., Podder B., Biswas A. Solar Energy Potential of Silchar, Assam, India-A Resource Assessment. *Advances in Optical Science and Engineering, Springer Proceedings in Physics* 166, DOI: 10.1007/978-81-322-2367-2_16.
2. Bishal Podder, Agnimitra Biswas "Recent developments in Hybrid Solar PV/T Technologies": A review. Research conclave on *Recent Innovations in Science and Engineering (RISE 2017)*
3. Bishal Podder, Maisanam Anil Singh, Agnimitra Biswas "Solar resource assessment using GHI measurements at a site in Northeast India", (IC-RIDME 2018) NIT Meghalaya, (accepted for publishing in book chapter of SPRINGER)

Personal Details

Date of Birth: 21st January, 1987
Language Knows: English, Hindi, Bengali, Assamese
Marital status: Married
Nationality: Indian
Permanent address: Banamali Road, Karimganj, Assam, 788710

References:

1. Dr Agnimitra Biswas., Associate Professor. National Institute of Technology Silchar, Assam, India. Email: agnibis@yahoo.co.in Mob: 9435500659
2. Dr Sujit Nath, Associate Professor. National Institute of Technology Silchar, Assam, India. Email: sujitnath2008@gmail.com Mob: 7896287211
3. Dr Dipankar Bhanja., Associate Professor. National Institute of Technology Silchar, Assam, India. Email: dipankar.bhanjz@gmail.com Mob: 8638035031

Declaration:

I hereby declare that the information given above is true to the best of my knowledge and belief