



Dr Rahul Yadav
Assistant Professor
Department of Applied Chemistry, Energy and Environment, DIAT-DRDO, Pune

Academic Background:

- ✓ PhD & MS (Mech Engg) – **IIT Madras**, 2018
- ✓ Institute Post-Doctoral Fellow - **IIT Kanpur**, 2018-2021

Google Scholar: <https://scholar.google.com/citations?user=3JPUD18AAAAJ&hl=en>

Research Interests:

CFD and Heat Transfer, Thermal Management, Solar and Hybrid Energy Systems, Hydrogen Refuelling and Storage

Honours and Awards:

1. Institute Post-Doctoral Fellowship – IIT Kanpur 2018
2. Institute Pre-Doctoral Fellowship – IIT Madras 2018

Sponsored Projects (Ongoing):

1. Numerical Analysis and Parametric Study of Film Cooling Performance in Thrust Vectoring Nozzles (**86.7 Lacs**, funded by DFTM, DRDO)
2. Coupled 1D-3D dynamic simulations of Hydrogen Refuelling Stations with Pressure Cascading, (**9.86 Lacs**, funded by DIAT-DRDO Pune, 2024)

Courses: Solar Energy Systems, Renewable Energy and Sustainability, Energy Modelling and Simulations, Geothermal and Ocean Energy

Research Publications (Recent):

- ✓ A Gupta, **Rahul Yadav**, MK Das, PK Panigrahi, Implementation of a multilayer radiation propagation model for simulation of microwave heating in hydrate reservoirs, *Int. J. Numerical Methods for Heat and Fluid Flow*, 32, 2, 684-713, 2022
- ✓ **Rahul Yadav**, A Gupta, MK Das, PK Panigrahi, Investigation on a controlled microwave heating technique for efficient depressurization in methane hydrate reservoirs, *Energy Reports*, 8, 7825-7839, 2023
- ✓ RP Singh, **Rahul Yadav**, K Muralidhar, MK Das, Effect of confined boundary and mud-layers on depressurization-based gas recovery and land subsidence in hydrate reservoirs, *Marine Geo-res. and Geotech.*, 40-1, 78-95, 2021
- ✓ **Rahul Yadav**, S Tripathi, S Asati, MK Das, A combined neural network and simulated annealing based inverse technique to optimize the heat source control parameters in heat treatment furnaces, *Inv. Prob. Science and Eng.*, 28, 9, 1265-1286, 2021

Summary:

Publications- 22	Projects- 02	Patents
International Journals – 10, Conference – 11, Book - 01	Ongoing- 02, Completed- 00	-

Institute Responsibilities:

- (i) Institute Environmental In-charge
- (ii) Member – Industry and Placement Cell
- (iii) Member – Institute Innovation Council
- (iv) Member – Sports Committee

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