**Dr. Grishma Pindolia,**
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## Education

Postdoc (2025) – IIT Roorkee
PhD (2024) – Pandit Deendayal Energy University, Gandhinagar
Thesis titled "***Study of Factors Affecting the Performance of Perovskite Solar Cell using Computational Methods***"
MSc (2019) – Gujarat University, Ahmedabad
BSc (2014) – St. Xavier's College, Ahmedabad

## Key Skills

Dr. Grishma Pindolia is capable of providing comprehensive solutions to the industry and academia in the following areas:

1. Characterizing materials at the atomic scale using Density Functional Theory (DFT) to understand their structural, mechanical, optical, electronic, and thermoelectric behaviours.
2. Conducting solar cell simulations to predict and optimize performance characteristics.
3. Accelerating material discovery and design by using machine learning to predict functional capabilities and performance metrics.
4. Content development and course designing for academic institutes.

## Background

Joined GSFC University in May 2025

## Scholarship and Accomplishments

Dr. Grishma Pindolia is a skilled researcher with a focused interest in the study of perovskite materials for energy applications. Her robust research toolkit encompasses density functional theory (DFT), machine learning (ML), and solar cell simulations.

Her doctoral research, encapsulated in her PhD thesis titled "Study of Factors Affecting the Performance of Perovskite Solar Cell," demonstrated her comprehensive approach. Within this work, she proposed and investigated novel materials for light absorber, hole transport, and electron

transport layers, conducted detailed solar cell simulations to extract performance metrics, and employed machine learning techniques to predict the efficiency of perovskite solar cells. Building on this foundation, her post-doctoral work as a Research Associate at IIT Roorkee specifically focused on the DFT study of defect properties in perovskites.

Dr. Pindolia's research impact extends beyond academic circles. She was honored with the prestigious ITS Award from SERB, Government of India, enabling her to present her work at an international conference in Australia. Furthermore, her research has garnered international media attention, highlighted by a direct interview with the editor of PV Magazine International, which subsequently led to coverage in two additional news publications. Actively contributing to the academic community, Dr. Pindolia also serves as a peer-reviewer for various SCOPUS-indexed journals from reputed publication houses such as Elsevier, Springer, and IOPScience.

Prior to joining GSFC University in May 2025, Dr. Pindolia accumulated 5 years of diverse teaching experience. She served for 2 years as an Assistant Professor of Physics at Shree Sahajanand Girls Institute, Bhuj (Kutch University), teaching undergraduate physics. Demonstrating her commitment to accessible education, Dr. Pindolia maintains an active YouTube channel where she delivers lectures and practical demonstrations for undergraduate Physics. She also gained 3 years of experience as a Teaching Assistant at Pandit Deendayal Energy University, Gandhinagar, instructing both undergraduate and postgraduate Physics students. Beyond physics, Dr. Pindolia has also taught programming languages including Python and C++.

## Most Three Notable Publications


1. **Grishma Pindolia**, Satyam M. Shinde, Prafulla K. Jha, Optimization of an inorganic lead free $RbGeI_3$ based perovskite solar cell by SCAPS-1D simulation, Solar Energy, 236 (2022) 802-821. https://doi.org/10.1016/j.solener.2022.03.053

2. **Grishma Pindolia**, Satyam M. Shinde, Prafulla K. Jha, Non-leaded, $KSnI_3$ based perovskite solar cell: A DFT study along with SCAPS simulation, Materials Chemistry and Physics, 297 (2023) 127426. https://doi.org/10.1016/j.matchemphys.2023.127426

3. **Grishma Pindolia**, Satyam M. Shinde, Prediction of Efficiency for $KSnI_3$ Perovskite Solar Cells Using Supervised Machine Learning Algorithms, Journal of Electronic Materials, 53 (2024) 3268-3275. https://doi.org/10.1007/s11664-024-10988-z