

YASHRAJ UPASE

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EDUCATION

Year	Degree	Institute	CGPA
2023-2028	Ph.D.	Indian Institute of Technology, Hyderabad(IITH)	9.43
2020-2022	M.Sc.	National Institute of Technology, Karnataka(NITK)	8.92
2017-2020	B.Sc.	Solapur University	9.98

THESES

Study of Orographic Precipitation from Satellite Estimates for Bias Correction, Downscaling, and Forecast Skill Analysis using XAI	Jul. 2023 - Jul. 2028
<i>Ph.D. thesis</i>	<i>Supervisor: Dr. Shruti Upadhyaya and Prof. Kishalay Mitra</i>
Numerical Solution Of Navier-Stokes Equation In Primitive Variable Form With Finite Volume Method	Aug. 2021 - Jul. 2022
<i>M.Sc. thesis</i>	<i>Supervisor: Dr. Ajith K. M.</i>

PHD COURSE PROJECTS

Estimation of evapotranspiration using remote sensing and machine learning	Jan. 2024 - Apr. 2024
<i>Course Project</i>	<i>Instructor: Dr Shruti Upadhyaya, Dr Satish Regonda</i>
Low-flow frequency analysis at ungauged sites based on regionally estimated streamflows for Australia	Jan. 2024 - Apr. 2024
<i>Course Project</i>	<i>Instructor: Dr R. Maheswaran</i>

PROJECTS INVOLVED IN

- 1. Classification of precipitation type using geostationary satellite data**
B. Atheeswaran, **Y. Upase**, J. Golani, and S. Upadhyaya, “*Classification of Precipitation Types using INSAT-3DR Satellite Imagery*,” **submitted** to 2025 IEEE India Geoscience and Remote Sensing Symposium (InGRSS 2025), Bhubaneswar, India, Dec. 10–13, 2025.
- 2. Forecasting of flash droughts using LSTM-based model**
A. Baghel, U. Jha, **Y. Upase**, A. Chakraborty, and S. Upadhyaya, “*Flash Drought Forecasting for Central India using Long Short-Term Memory*,” **submitted** to 2025 IEEE India Geoscience and Remote Sensing Symposium (InGRSS 2025), Bhubaneswar, India, Dec. 10–13, 2025.
- 3. Performance assessment of IMERG rainfall estimates using rain-gauge data**
- 4. Use of triple-collocation for improvement and analysis of the merged rainfall product**

WORKSHOP/CONFERENCES

International Indian Ocean Science Conference - 2025	01-05 Dec. 2025
<i>INCOIS, Hyderabad, India</i>	
· Accepted Evaluation of GPM IMERG-derived diurnal precipitation over the Indian Ocean: A multi-faceted approach	
International Association of Hydrological Sciences 2025	05-10 Oct. 2025
<i>IIT, Roorkee, India</i>	
· Accepted Performance Assessment of IMERG Precipitation Estimates Using MESONET Data in Mumbai	

8th International Workshop on Monsoons (IWM-8)

17-21 Mar. 2025

Indian Institute of Tropical Meteorology (IITM), Pune

- **Oral Presentation:** Utilizing Dynamic Meteorological Variables and Static Topographic Variables to Enhance Satellite Rainfall Estimates through Deep Learning Algorithm

11th Workshop of International Precipitation Working Group

15-18 Jul. 2024

Tokyo Institute of Technology, Tokyo

- **Poster:** Topography-guided Bias Correction Framework to Improve Satellite-based Retrievals over Mountain Regions

International Workshop on Stratosphere-Troposphere Interactions and Prediction of Monsoon weather EXtremes (STIPMEX)

02-07 Jun. 2024

Indian Institute of Tropical Meteorology (IITM), Pune

- **Poster:** Leveraging Static Topographic Variables to Improve Satellite Rainfall Estimates using Convolutional Neural Networks

INTERNSHIP/SUMMER-/TRAINING-SCHOOL

6th Summer School on Theory, Mechanisms and Hierarchical Modelling of Climate Dynamics: Artificial Intelligence and Climate Modelling

05-16 May 2025

International Centre for Theoretical Physics, Trieste, Italy

- **Poster:** Investigating Role of Loss Functions in Bias Correction of Satellite Precipitation Estimates Guided by Environmental and Terrain Variables

Moist Convective Dynamics of Monsoon

18-29 Nov. 2024

International Centre for Theoretical Sciences, Bengaluru

- **Poster:** Can we use topography information to improve the bias in satellite precipitation retrievals? A CNN-based performance study

Climate Modeling Worksop

24-28 Jul. 2023

*Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru***Mathematical Modeling of Climate, Ocean, and Atmosphere processes**

26-30 Jun. 2023

*International Centre for Theoretical Sciences, Bengaluru***MOOC on Machine Learning in Weather & Climate**

09 Jan.-30 Apr. 2023

*ECMWF***Internship on Climate Data Analysis**

02 Oct.-28 Feb. 2022

*Indian Institutes of Science Education and Research, Pune**Guide: Dr.Joy Monteiro***Summer Internship**

27 May-31 Jul. 2021

*Atmospheric Science Division, Physical Research Laboratory (PRL), Ahmedabad**Guide: Dr.Lokesh Kumar Sahu***SKILLS AND INTERESTS**

Subject Interests : Orographic Precipitation, Machine Learning, XAI**Programming Language :** Python, C++(including parallel programming)(novice)**Tools Equipped :** Tensorflow, PyTorch, Keras, Xarray, NetworkX**COMMITTEES/MEMBERSHIPS**

American Geophysical Union

since 2024

*General Membership,**Member, AGU Precipitation Technical Committee*

European Geophysical Union <i>General Membership</i>	since 2024
American Meteorological Society <i>General Membership</i>	since 2024
Focus Group in International Precipitation Working Group <i>Focus Group on Orographic Precipitation</i>	since 2024
IEEE and IEEE GRSS <i>General Membership</i>	since 2025

ACHIEVEMENTS

- Received **IITH-Greenko Fellowship** for doctoral research since 2024
- Recipient of **INSPIRE scholarship** given by Department of Science and Technology, Government of India 2017-2022
- Secured **2nd rank** in B.Sc.(Physics) in Solapur University

POSITIONS OF RESPONSIBILITY

- Serving as PhD student representative in senate post-graduation committee, IITH since Sep 2024
- Mentored 2 master's, 1 undergrad student, and 1 intern for major project/thesis till Jul 2025
- Serving as department representative of Climate Change department in IITH Doctoral Council since Jun 2025
- Leading outreach efforts in Climate Change department, IITH since Jun 2024

last updated October 22, 2025