Syed Hamid Ali

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Education

Purdue University — **West Lafayette, IN, USA**
Ph.D. in Atmospheric Sciences — *2026*
(expected)

Savitribai Phule Pune University (SPPU) — **Pune, MH, India**
M.Tech. Atmospheric Sciences — *2021*

University of Kashmir (KU) — **Srinagar, J&K, India**
B.E. Mechanical — *2018*

Research experience

Ph.D. Topic

Tornadoes in Quasilinear Convective Systems — **Dr. Daniel Dawson (Advisor)**
NOAA PERiLS Project — *2022–Present*

M. Tech Thesis

Radar Derived Quantitative Precipitation Estimation — **Dr. M.C.R. Kalapureddy (Advisor)**
Indian Institute of Tropical Meteorology (IITM) — *2020–2021*

Skills

Software Development

PyScanCf: The library for handling IMD radar data (Link to Library)

Xradar: Xarray based radar toolkit (Link to Library)

PyMWR: Python Microwave Radiometer library (Link to Library)

Programming

Python, IPyParallel, Dask Parallel, Parallel netCDF, R, MATLAB, FORTRAN 90/95

Frequently Using: PyScanCf, Py-ART, Xarray, Wradlib, Scipy, Pandas, Sklearn, PyTorch, Tensorflow, Geopandas, Metpy, LaTeX, etc.

Visualization and Statistics: Python, Ferret, Climate Data Operators (CDO), Origin

Super-computing: Purdue's Bell Cluster, IITM's HPC Pratyush and HPC Aditya

Experience with

Radar: Volume Scan Datasets (vol, Cf-Radial), Disdrometer, Raingauge, MRR

Satellite Observations: TRMM, GPM (L2, L3, IMERG), INSAT3D, SRTM

Reanalysis & Model datasets: MRMS, NCAR Reanalysis, ERA5, ERSST-V5, ERA40, ERA-INTERIM, WRF, GPCP, IMDAA

Publications

Peer Reviewed

1. *in-prep*

Non-Peer Reviewed

1. Syed, Hamid Ali. (2023). Critical Need for Doppler Weather Radars in India: Predicting and Mitigating the Impact of Severe..., *Medium*, LINK.
2. Syed, Hamid Ali, Sayyed, Imran, Kalapureddy, Madhu Chandra R, & Grandhi, Kishore Kumar. (2021) PyScanCf – The library for single sweep datasets of IMD weather radars, *Zenodo*, DOI: 10.5281/zenodo.5574160

Conferences

Talks

1. **2023** DSD Characteristics and Evolution of the Leading Stratiform Region of a Tornadic QLCS during PERiLS-2022 IOP#2 (30 March 2022). AMS 40th Radar Conf.
2. **2023** An Overview of Purdue's Mobile Disdrometer Operations in PERiLS 2023, AMS 40th Radar Conf.
3. **2022** Seventh WMO International Workshop on Monsoons (IWM-7): PyScanCf Introduction
4. **2021** INTROMET: Hourly radar-based quantitative precipitation estimation LINK to abstract P. 456

Poster Presentations

1. Dawson, Daniel T., Qin Jiang, Jacob Andrew Bruss, Matthew Graber, Funing Li, **Hamid Ali Syed**, Faith Vendl, Quinn Wilson, Michael I. Biggerstaff, and Sean M. Waugh (2022): Overview of Purdue's Mobile Disdrometer Operations in PERiLS 2022. In: 30th Conference on Severe Local Storms, Birmingham, AL, 22-26 November 2022. AMS, pp. 1-6.
2. 2022 Seventh WMO International Workshop on Monsoons (IWM-7): LINK to Poster
3. 2021 Radar-Based Quantitative Precipitation Estimation in Western Ghats, International Conference on Clouds and Precipitation, IITM Pune
4. 2021 Characterization of Hourly Radar-Based Quantitative Precipitation Estimation, Midwest Student Conference on Atmospheric Research, University of Illinois LINK to Poster

Open source Contributions (GitHub)

1. ***X*radar**: https://github.com/openradar/xradar
2. **Py-ART**: https://github.com/ARM-DOE/pyart
3. **PyDDA**: https://github.com/openradar/PyDDA/
4. **IMD Radar Network Dataset, 2023**: https://doi.org/10.6084/m9.figshare.22704910.v1
5. **Wradlib**: https://github.com/wradlib/wradlib
6. **DRpy**: https://github.com/dopplerchase/DRpy
7. **PyMeso**: https://github.com/jordanbrook/PyMeso
8. **OpenRadar**: https://openradarscience.org/pages/projects/

Courses/Certifications

Nov 2020: Machine Learning by Stanford University, Coursera
Oct 2020: Understanding and Visualizing Data with Python, Coursera
Sep 2020: Data Analysis with Python, IBM, Coursera
Sep 2020: Python for Data Science, IBM, Coursera

Sep 2020: Python for Everybody by University of Michigan, Coursera
Jul 2017: Course on Computer Concepts, NIELIT
May 2011: Course in C/C++, DOEACC

Comet/MetEd Courses, NCAR/UCAR

Feb 2023: Communicating Probabilistic Forecasts
Mar 2023: Communicating Forecast Uncertainty
Mar 2023: Gridded Forecast Verification and Bias Correction
Apr 2023: Analyzing and Evaluating Risk
Apr 2023: Impact-Based Forecasting: Identifying Hazards and Constructing Impacts Tables
Apr 2023: Met 101: Basic Weather Processes
Apr 2023: Met 101: Introduction to the Atmosphere
Apr 2023: NWP Essentials: NWP and Forecasting

Workshops & Seminars

Dec 2020: Basics of Satellite Meteorology at Space Application Center, ISRO Online
Feb 2020: From the Byte to Service: Trans-disciplinary Climate Research, IITM
Jan 2020: National Information System for Climate and Environment Studies and its Activities, NRSC ISRO & IITM Pune, IITM
Apr 2020: Seminar on Clouds in Cyclones, SPPU
Nov 2019: Seminar on Photosphere, SPPU
Oct 2019: Seminar on Cyber Security, SPPU
July 2017: Seminar on Autonomous Vehicles, KU

Awards

2014-2017 & 2019-2021: Merit cum means scholarship – Ministry of Minority Affairs, Govt of India

Volunteering

Feb 2020: Volunteered in Annual Monsoon Workshop hosted by Indian Meteorological Society, Pune Chapter, Pune
Since 2014: Regular Career counseling in rural and remote areas of Kashmir Valley

Language Skills

Proficient: Kashmiri, English, Urdu
Intermediate: Arabic (reading and writing)
Basic: Hindi (speaking)