25 Feb 2020

POPAT U. SALUNKE

Centre for Atmospheric Sciences
Indian Institute of Technology Delhi
Hauz Khas, New-Delhi 110016, INDIA.

Mob. No.: +91-9999334019
E-mail: popatsalunke9@gmail.com

Educational Information

Ph. D. Atmospheric Science **(July 2014 – present)**
Centre for Atmospheric Sciences,
Indian Institute of Technology Delhi, India

M. Tech. Atmospheric Science **(June 2012)**
University of Pune & Indian Institute of Tropical Meteorology, Pune, India

M. Sc. Physics **(June 2009)**
University of Pune, India

B. Sc. Physics **(June 2007)**
University of Pune, India

Research Interest

Climate Modelling, Climate Data Analysis and Application, Climate Change and Climate Extreme, Atmospheric Dynamics, Dynamics of Indian Monsoon, Geoengineering, Statistical Analysis

Research Experience

Research Scholar (July 2014 – present)
Centre for Atmospheric Sciences,
Indian Institute of Technology Delhi, India
Supervisor: Dr. S. K. Mishra
Title: Himalaya-Tibetan Highland: Climate Change, Geoengineering, and Indian Monsoon

Visiting Research Student (Jul 2019 – Sept 2019)
King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
Advisor: Prof. Ibrahim Hoteit
Title: Assessment of NEX-GDDP multi-model mean for the historical climate of Arabian Peninsula

Senior Research Fellow (Feb 2014 – July 2014)
Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, New Delhi, India
Advisor: Dr. Sagnik Dey
Title: Impact of Air Quality and Heat Stress on Health: Future Projections for India

Project Assistant (Jul 2013 – Feb 2014)
Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, New Delhi, India
Advisor: Prof. S. K. Dash
Title: Asian Cites Adapt-Impacts of Climate Change in Target Cites in India and the Philippines and local adaptation strategies

Junior Research Fellow (Jan 2013– Mar 2013)
Department of Space and Atmospheric Sciences, University of Pune, Pune, India
Advisor: Dr. A. K. Karipot
Title: Calibration and Validation of Land Surface Model by using INSAT-3D Observations and in situ Measurements

M. Tech Dissertation (Jun 2011 – May 2012)
Indian Institute of Tropical Meteorology, Pune,
Advisor: Dr. M. N. Patil (Scientist E)
Title: Variability of Fluxes in Atmospheric Boundary Layer by Using Micrometeorological Tower

Computer Proficiency

Operating systems: Linux, Mac and Windows
Software's: NCAR command language (NCL), MATLAB, Origin, CDO, NCO, Shell Scripting
Languages known: Fortran90
Model Used: NCAR CESM-CAM, RegCM4

Professional Honours and Awards

- Research Excellence Travel Award (RETA) from IRD (IIT Delhi) **(2019)**
- CSIR Travel Grant (*Not Availed*) **(2019)**
- Research Fellowship, Indian Institute of Technology Delhi **(Jul 2014 – Jul 2019)**
- Student Travel Grant and Scholarship AGU Fall Meeting 2017 (*Not Availed*) **(2017)**
- Research Fellowship, Indian Institute of Tropical Meteorology **(2010 – May 2012)**

Professional Memberships

American Geophysical Union **2017– Present**
European Geosciences Union **2019– Present**

Teaching Experience

Teaching Assistant

(*Responsibility: Proctor minors and major exam, Evaluation of answer sheets, Grading exams, Duties including climate modeling lab, Conduct tutorials and labs*)

- The Earth's Atmosphere: Physical Principles **(Jul 2017 – Dec 2019)**
- Tropical Weather and Climate **(Jan 2016 – May 2017)**
- Numerical Modeling of the Atmospheric and Oceanic Phenomena **(Jul 2015 – Dec 2015)**

Publications

Refereed Journals

1. **Salunke P.,** S. Jain, and S. K. Mishra: Performance of the CMIP5 models in the simulation of the Himalaya-Tibetan Plateau monsoon, *Theoretical and Applied Climatology,* 137, 909-928, **2019**. DOI:10.1007/s00704-018-2644-9

2. Jain S., **P. Salunke**, S. K. Mishra, and S. Sahany: Advantage of NEX-GDDP over CMIP5 and CORDEX Data: Indian Summer Monsoon, *Atmospheric Research*, Volume 228, 152-160, 2019. DOI:10.1016/j.atmosres.2019.05.026

3. Mishra S. K., S. Jain, **P. Salunke**, and S. Sahany: Past and Future Climate Change over the Himalaya-Tibetan Highland-Inferences from APHRODITE and NEX-GDDP DATA, *Climatic Change,* 156,315-322, 2019. DOI:10.1007/s10584-019-02473-y

4. Zebaze S., S. Jain, **P. Salunke**, S. Shafiq and S. K. Mishra: Assessment of CMIP5 multimodel mean for the historical climate of Africa, *Atmospheric Science Letters*, 20,1-12, 2019. DOI:10.1002/asl.926

5. Parihar Singh R., P. K. Bal, V. Kumar, S. K. Mishra, S. Sahany, **P. Salunke**, S. K. Dash and R. Dhiman: Numerical Modeling of the Dynamics of Malaria Transmission in a Highly Endemic Region of India, *Scientific Reports* 9(1): 11903. 2019. DOI:10.1038/s41598-019-47212-6

6. Mishra, S. K., S. Sahany, **P. Salunke**, In-Sik Kang, and S. Jain: Fidelity of CMIP5 Multi Model Mean in Assessing Indian Monsoon Simulations. *npj Climate and Atmospheric Sciences,* 1, Article number 39, 2018. DOI:10.1038/s41612-018-0049-1

7. Jain S., **P. Salunke**, S. K. Mishra, and S. Sahany: Performance of CMIP5 models in the simulation of Indian summer monsoon, *Theoretical and Applied Climatology*, 137,1429-1447, 2019. DOI:10.1007/s00704-018-2674-3

8. Jain S., S. K. Mishra, **P. Salunke**, and S. Sahany: Importance of the Resolution of Surface Topography Vis-à-Vis Atmospheric and Surface Processes in the Simulation of the Climate of Himalaya-Tibet Highland. *Climate Dynamics*, 52,4735-4748, 2019. DOI:10.1007/s00382-018-4411-0

9. Sahany S., S. K. Mishra, and **P. Salunke**: Historical Simulations and Climate Change Projections over India by NCAR CCSM4: CMIP5 vs. NEX-GDDP. *Theoretical and Applied Climatology*, 135,1423-1433, 2019. DOI:10.1007/s00704-018-2455-z

10. Mishra S. K., S. Sahany, and **P. Salunke**: CMIP5 vs. CORDEX over the Indian region: how much do we benefit from dynamical downscaling? *Theoretical and Applied Climatology*, Volume 133, Issue 3-4, pp 1133-1141, 2017. DOI:10.1007/s00704-017-2237-z

11. Mishra S. K., S. Sahany, and **P. Salunke**: Linkages between MJO and summer monsoon rainfall over India and surrounding region. *Meteorology and Atmospheric Physics*, Volume 129, pp 283-296, 2017. DOI:10.1007/s00703-016-0470-0

12. Dash S. K., S. Dey, **P. Salunke**, M. Dalal, V. Saraswat, S. Chowdhury, R. K. Choudhary: Comparative Study of Heat Indices in India Based on Observed and model Simulated Data. *Curr World Environ*,12(3),2017. DOI:10.12944/CWE.12.3.06

Manuscripts under Communication

1.Parihar S. R., H. Prasad, V. Kumar, **P. Salunke**, S. Langodan, A. Anand, S. Sahany, S. K. Mishra, and I. Hoteit: Investigating Transmission Dynamics of Malaria in the Kingdom of Saudi Arabia using the VECTRI Model. Scientific Reports. 2020. *(Under Review)*

2. Mishra S. K., S. Jain, A. Anand**, P. Salunke**, and J. T. Fasullo: Historical and Projected Low-Frequency Variability in the Somali Jet and Indian Summer Monsoon. Climate Dynamics. 2019. *(Under Review)*

Manuscripts in Preparation

1. **Salunke P.** and S. K. Mishra: Numerical Simulations of Orographic Effects on Tropical Easterly Jet and Indian Summer Monsoon *(In Process)*

2. **Salunke P.** and S. K. Mishra: Past and Future of Tropical Easterly Jet and its association with Indian Summer Monsoon *(to be submitted)*

3. **Salunke P.** and S. K. Mishra: Association of HTH Climate with Indian summer Monsoon through Numerical Simulations *(Under Preparation)*

4. **Salunke P.** and S. K. Mishra: Multi-Model Evaluation of the Regional Climate of the Himalayan Tibetan Highlands by Geo-engineering *(Under Preparation)*

Workshop attended

1. Global Initiative of Academic Neatwork's (GIAN) 2019, Tropical Meteorology Asian-Australian Monsoon Tropical Cyclones and Climate Change, short term course, IIT Delhi, New Delhi, India.
2. WILEY 2018, Author Workshop on How to Publish a Technical Paper, IIT Delhi, New Delhi, India.
3. Workshop 2014, Climate Modelling: Simulation and Analysis, Centre for Atmospheric Sciences, IIT Delhi, New Delhi, India.
4. Climate Change and Health 2013 Workshop at Sri Ramachandra University, Porur, Chennai, India.
5. Raman Memorial Conference 2013, Department of Physics, University of Pune, Pune, India.

Contributed Presentations

1. **Salunke P.,** and S. K. Mishra, "Past and Future of Tropical Easterly Jet and it's association with Indian Summer Monsoon"; Poster presentation at European Geophysical Union (EGU) General Assembly 2019, Austria International Centre, Vienna, Austria, 2019.
2. **Salunke P.,** S. Jain, S. K. Mishra and Sahany S., "Evaluation of CMIP5 Models for Indian Summer-Monsoon Precipitation and Temperature"; Oral presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Utter Pradesh, India, 2018.
3. Singh R., **Salunke P**., Bal P. K, H. Dwivedi, Mishra S. K., Sahany S., Naik S. N., "Analysis of Potential Effects of Climate Change on Malaria Transmission Dynamics in Odisha, India"; Poster presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Utter Pradesh, India, 2018.
4. Singh R., **Salunke P**., Mishra S. K., Naik S. N., "Response of Climatic Conditions and Human Health over India to Geo engineering (G3)"; Poster presentation at Eighth Annual Geo MIP Meeting, at ETH Zurich, Switzerland, 2018.
5. Jain S., S. K. Mishra, **P. Salunke**, and Sahany S., "Importance of the Resolution of Surface Topography Vis-à-Vis Atmospheric and Surface Processes in the Simulation of the Climate of Himalaya-Tibet Plateau"; Oral presentation at TROPMET 2018, Banaras Hindu University, Varanasi, Utter Pradesh, India, 2018.
6. Bhowmick M., Mishra S. K., **Salunke P**., Chakraborty M., "Indian Monsoon in the Geoengineered world (G2) and after its Termination"; Oral presentation at Eighth Annual Geo MIP Meeting, at ETH Zurich, Switzerland, 2018.
7. Mishra S. K., Sahany S., **Salunke P**., "SRM Research in India: Future Prospects"; Oral presentation at SRMGI Global Forum at Berlin Germany, 2017.
8. Mishra S. K., Sahany S., **Salunke P.,** "SRM Research in India"; Oral presentation at SRMGI Global Forum at Berlin Germany, 2017.
9. Mishra S. K., Sahany S., Dash S. K., Anand A., Pathak R., and **Salunke P.**, "Need for Reliable Simulations of Indian Climate: Climate Projections to Climate Engineering"; Oral presentation at ICTP, Italy, 2017.
10. Pathak R., Sahany S., Mishra S. K., Gupta K., **Salunke P.**, Anand A., "CMIP5 vs CORDEX in the Context of Indian Monsoon"; Poster presentation at 13th Annual Meeting of the Asia Oceania Geosciences Society, Beijing, China, 2016.
11. Mishra S. K., **Salunke P.**, Sahany S., and Dash S. K., "Climate Change and Climate Variability in India: Reliability of Present-day Models"; Oral presentation at International Conference on Climate change and Adaptation: Empowering small holders and ensuring food security, Chennai, India, 2016.

References

1. **Dr. Saroj Kanta Mishra**
(PhD Supervisor)
YES BANK Chair for Climate Modeling
PI, DST CoE in Climate Modelling,
Associate Professor, Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India
Telephone: +91 11 2659 1390
E-mail: skm@iitd.ac.in

2. **Dr. Sandeep Sahany**
Head, Climate Modelling and Prediction, CCRS, Singapore &
Co-PI, DST CoE in Climate Modelling,
Assistant Professor, Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, India
Telephone: +91 11 2659 1314
E-mail: ssahany@cas.iitd.ac.in

3. **Prof. S. K. Dash**
President, India Meteorological Society, &
Formerly Emeritus Professor & Head,
Centre for Atmospheric Sciences,
Co-PI, DST CoE in Climate Modelling,
Indian Institute of Technology Delhi, India
Telephone: +91 11 24653728
E-mail: skdash@cas.iitd.ac.in