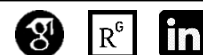


## CURRICULUM VITAE

### SIDHA SANKALPA MOHARANA, Research Associate

School of Earth, Ocean and Climate Sciences  
Indian Institute of Technology Bhubaneswar  
Argul, Jatani, Odisha, 752051, India  
Date of Birth: 20-03-1998



8763079796, 7008473683  
ssm20@iitbbs.ac.in  
sidhasankalpa@gmail.com  
sidhasankalpa.github.io

### RESEARCH INTERESTS

- Atmosphere-Ocean Interaction, Tropical Cyclones, Remote Sensing, Upper Atmospheric Physics.

### PUBLICATIONS

- Journals: 4 • Preprints: 1 • Conferences: 7 • Citations: 21 • h-index: 2

### AWARDS & ACCOLADES

- Qualified CSIR-JRF NET – 2019 and GATE GG – 2025.
- DST-SERB (ANRF) International Travel Grant to attend AOGS 2024 Conference in South Korea.
- INSPIRE Scholarship for Higher Education (2015-20) – DST, Govt. of India.
- Pathani Samanta Mathematics Scholarship (2012-15) & Medhabruti (2015) – Govt. of Odisha, IN.
- Teaching Assistant:
  - [1] “Introduction to Computer Sciences CS1101” – Undergraduate Class, IISER Kolkata, IN.
  - [2] “Geoinformatics and Remote Sensing” – Postgraduate Class, IIT Bhubaneswar, IN.

### EDUCATION

- Indian Institute of Technology Bhubaneswar, IN 2020-2026  
Ph.D. in Atmosphere and Ocean Sciences, 9.53 CGPA  
Courses – Scientific & Technical Writing, Research Methodology & Data Analysis, Physics of Atmosphere & Ocean, Satellite Oceanography & Meteorology, Weather Analysis & Forecasting.
- Indian Institute of Science Education and Research Kolkata, IN 2015-2020  
5 Years BS – MS Dual Degree in Geological Sciences, 8.52 CGPA  
Courses – Biogeochemical Cycles, Groundwater Hydrology, Earth System Processes, Remote Sensing & GIS, Atmospheric Sciences, Inverse Theory, Seismology, Mineralogy, Petrology, Paleontology, Geochemistry.
- Banki Junior College, Banki, Cuttack, IN 2013-2015  
12<sup>th</sup>, Council of Higher Secondary Education, Odisha, 81.83%
- Sri Aurobindo Centre of Integral Education, Banki, Cuttack, IN 2013  
10<sup>th</sup>, Board of Secondary Education, Odisha, 93%

### SKILL HIGHLIGHTS

- Skilled in Python, MATLAB, Shell script, R, Ferret, HTML, CSS, Web Designing.
- Proficient in remote sensing data analysis, satellite observation datasets, ground-based atmospheric observations, and GLD360, WWLLN lightning datasets.

### EXPERIENCE

- Atmosphere – Ocean Interaction  
Ph.D. – IIT Bhubaneswar, IN (*Thesis submitted.*) August 2020 – August 2026  
Title: “Investigation of the Role of Geophysical Parameters on Tropical Cyclone Activity in Recent Years”  
Supervisor: Dr. D. Swain, Assoc. Professor, SEOCS, Indian Institute of Technology Bhubaneswar, IN.
- Cyclone Induced Electrical Coupling of Lower and Upper Atmosphere  
MS – KSKGRL (IIG), Prayagraj, IN August 2019 – April 2020

Title: “ESCS Fani: A Study of its Meteorological & Electrical Properties and its Role in Coupling the Lower and Upper Atmosphere”

Supervisor: Dr. Rajesh Singh, Professor F, KSKGRL, Indian Institute of Geomagnetism, Prayagraj, IN.

Co-Supervisor: Dr. Gopala Krishna Darbha, Professor, DES, IISER Kolkata, IN.

- Properties of Mesoscale Convective System (MCS), producing TLEs in India  
Summer Project – KSKGRL (IIG) Prayagraj, IN May 2018 – July 2018  
“I was investigating occurrences of electrical discharges over cloud systems that sometimes reach the base of the ionosphere, known as Transient Luminous Events (TLEs). I characterized and studied 10 such TLEs (9 Sprites and 1 Gigantic Jet) over the central Indian region along with their parent thunderstorm properties. I carried out this study under the guidance of Prof. Rajesh Singh at KSK Geomagnetic Research Laboratory, Indian Institute of Geomagnetism, Prayagraj, IN.”

## PUBLICATIONS (Journals)

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1. **Moharana, S. S.,** & Swain, D. (2026). Shifting patterns of tropical cyclogenesis in the Bay of Bengal and landfalls over the eastern Indian coast. *Journal of Marine Systems* (Elsevier, Q1), 257, 104273. <https://doi.org/10.1016/j.jmarsys.2026.104273>
2. Ray, S., **Moharana, S. S.,** Nag, A., & Swain, D. (2025). Evaluation of Oceansat-3 gridded wind accuracy for low to extreme wind speed conditions. *International Journal of Remote Sensing* (Taylor & Francis, Q2), 46(17), 6403-6427. <https://doi.org/10.1080/01431161.2025.2538827>
3. Patil, O. M., **Moharana, S. S.,** Maurya, A. K., Parihar, N., Singh, R., & Dimri, A. P. (2024). Role of lightning activity in deciphering atmospheric gravity waves (AGWs) induced D-region ionospheric perturbations during extremely severe cyclonic storm (ESCS) Fani. *Journal of Geophysical Research: Space Physics* (Wiley, Q1), 129(4), e2023JA032187. <https://doi.org/10.1029/2023JA032187>
4. **Moharana, S. S.,** & Swain, D. (2023). On the recent increase in Atlantic Ocean hurricane activity and influencing factors. *Natural Hazards* (Springer, Q1), 118(2), 1387-1399. <https://doi.org/10.1007/s11069-023-06061-3>
5. [Preprint] Ray, S., **Moharana, S. S.,** & Swain, D. (2022). Ocean response to Tropical Cyclone “Asani”: Surface cooling restricted by Coastal Downwelling. <https://doi.org/10.21203/rs.3.rs-2001209/v1>

## CONFERENCES

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1. Moharana, S. S. & Swain, D. (2024). Tropical Cyclone Response to Recent Warming in Arabian Sea. Abstract ID: AS11-A001. In the 21st Annual Meeting of the Asia Oceania Geosciences Society 2024 (AOGS2024), Pyeongchang, Gangwon-do, South Korea. 23-28 June 2024.
2. Moharana, SS & Swain, D. (2024). Impact of Geophysical Parameters on Tropical Cyclogenesis Locations in the Bay of Bengal. WOSC 2024, 27-29 February 2024.
3. Moharana, S. S. & Swain, D. (2023). Cluster Analysis of Tropical Cyclogenesis Locations in the Bay of Bengal. Abstract ID: ABS-05-0004. In the 8th National Conference of Ocean Society of India 2023 (OSICON-23), INCOIS, Hyderabad, India. 23-25 August 2023.
4. Moharana, SS & Swain, D. (2022). Investigation of the Impact of Geophysical Parameters Modulating the Recent Rise in Hurricane Activity in the Atlantic Ocean. In Fall Meeting 2022. AGU, 1106035.
5. Moharana, SS & Swain, D. (2022). Recent changes in the trends of Atlantic Hurricanes and the factors influencing them. AOGS 2022, Virtual, AS11/A022.
6. Moharana, SS & Swain, D. (2021). Atlantic hurricanes of 2020 and the factors influencing them. OSICON-21, Online, 12-14 August 2021, OSICON2021/155.
7. Moharana, SS & Singh, R. (2020). Probing a post monsoon Mesoscale Convective System (MCS) and the generated Transient Luminous Events (TLEs) over Indian region. EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-19407. <https://doi.org/10.5194/egusphere-egu2020-19407>.

Place: Jatani, India  
Date: 2<sup>nd</sup> September, 2026