Shangyong Shi

Pim Postdoc Fellow, Johns Hopkins University

✉ sshi28@jhu.edu | 🌐 shangyongshi.github.io | ✆ (+1) 850-405-8534
3400 N. Charles St., 228 Olin Hall, Baltimore, MD

RESEARCH INTERESTS

precipitation phase, snow-to-precipitation ratio, extreme precipitation, remote sensing, satellite precipitation retrieval, surface hydrology, machine learning, climate change

EDUCATION

Florida State University,	Tallahassee, FL
Ph.D., Meteorology. Advisor: Guosheng Liu	*Jan. 2021 – Aug. 2024*
Florida State University,	Tallahassee, FL
M.S., Meteorology. Advisor: Guosheng Liu	*Sept. 2018 – Dec. 2020*
Nanjing University,	Nanjing, China
B.S., Atmospheric Sciences	*Sept. 2014 – Jun. 2018*
National Taiwan University,	Taipei, China
Exchange Student, Department of Atmospheric Sciences	*Sept. 2016 – Jan. 2017*

EMPLOYMENTS AND EXPERIENCES

Johns Hopkins University, Department of Earth and Planetary Sciences   Baltimore, MD
Pim Postdoc Fellow   *Sept. 2024 - Present*
Mentor: Benjamin Zaitchik

University of Maryland, Cooperative Institute for Satellite Earth System Studies   College Park, MD
Research Intern   *Jun 2023 – Aug 2023, Oct 2023 – May 2024*
Advisor: Yongzhen Fan, Huan Meng
- Developed an orographic precipitation index to identify orographic snowfall. Incorporate new variables in the machine learning algorithm to reduce the orographic snowfall rate bias estimates from satellite microwave sensors.

Florida State University,
Department of Earth, Ocean, and Atmospheric Science   Tallahassee, FL
Research Assistant   *Sept. 2018 – Aug. 2022, Jun. 2023 – Aug. 2024*

Florida State University,
Department of Earth, Ocean, and Atmospheric Science   Tallahassee, FL
Teaching Assistant   *Sept. 2022 – May 2023*
- Course: Atmospheric Dynamics I and II.

Nanjing University, School of Atmospheric Sciences   Nanjing, China
Research Assistant, *Dissertation*   *Sept. 2017 – Jun. 2018*
- Studied the modification on the Indo-Western Pacific Ocean Capacitor Effect by the Pacific Meridional Mode in boreal spring.

Student Innovative Project Leader   *Sept. 2015 – Jul. 2016*
- Simulated the Fujiwara Effect between two vortices in a rotating water tank.

PUBLICATIONS

1. **Shi, S.,** Fan, Y., Dong, J., and Meng, H (2024). Developing a machine learning algorithm to improve orographic snowfall retrieval from satellite passive microwave sensors. (In preparation)

2. **Shi, S.*,** & Liu, G (2024). Investigation on the sensitivity of the snow-to-precipitation ratio to temperature based on satellite data (In preparation)

3. **Shi, S.***, & Liu, G (2024). Improvements on Phase Classification Using Atmospheric Melting and Refreezing Energy Based on Soundings. *Journal of Geophysical Research: Atmospheres,* 129(10), e2023JD040030. https://doi.org/10.1029/2023JD040030.

4. Jeoung, H., **Shi, S.,** & Liu, G.* (2022). A novel approach to validate satellite snowfall retrievals by ground-based point measurements. *Remote Sensing*, 14(3), 434. https://doi.org/10.3390/rs14030434

5. **Shi, S.*,** & Liu, G. (2021). The latitudinal dependence in the trend of snow event to precipitation event ratio. *Scientific Reports*, 11(1), 18112. https://doi.org/10.1038/s41598-021-97451-9

6. **Shi, S.,** & Misra, V*. (2020). The role of extreme rain events in Peninsular Florida's seasonal hydroclimate variations. *Journal of Hydrology*, 589, 125182. https://doi.org/10.1016/j.jhydrol.2020.125182

PRESENTATIONS

1. **Shi. S.** (Jan. 2024). Developing a machine learning algorithm to improve orographic snowfall retrieval from satellite passive microwave sensors. JPSS Hydrology Initiative Telecon (Online)

2. **Shi, S.** (Dec. 2023). Improvements on Phase Classification Using Atmospheric Melting and Refreezing Energy Based on Soundings. *2023 AGU Annual Meeting* (Poster)

3. **Shi, S.** (Jan. 2023). Classifying precipitation phase with atmospheric soundings. *2023 AMS Annual Meeting* (Oral)

PEER REVIEW

• Reviewer of Asia-Pacific Journal of Atmospheric Sciences	2024
• Reviewer of Journal of Hydrology, 1 manuscript	2021
• Reviewer of Climate Dynamics, 1 manuscript	2021

AWARDS

• 1st place oral presentation among student entries in the Hydrology section	2023
• Member of Chi Epsilon Pi Meteorology Honor Society	2019
• National Scholarship for outstanding undergraduates (top 2% in NJU)	2017
• The Liao's Scholarship (University-level, top 2% in school, NJU)	2016
• The Liao's Scholarship (University-level, top 2% in school, NJU)	2015
• University-level outstanding students (top 5% in NJU)	2015

SKILLS

- Coding: Python, Matlab, Fortran, C;
- Platforms: Linux, Github code management