Ashim Sattar, *M.Sc, Ph.D*

Assistant Professor, SEOCS, IIT Bhubaneswar

Expert member of Glacier and Permafrost Hazards in Mountains (GAPHAZ)

Expert member of Sikkim Commission on Glacier Hazards, Govt. of Sikkim, India

DST Inspire Faculty

Founder of the Cryosense Lab, IIT Bhubaneswar

Former Federal Postdoctoral Researcher (Swiss Government funded)

Former group member at Environment and Climate (EClim), University of Zurich, Switzerland

Former NASA funded postdoc at University of Dayton, Ohio, USA

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Broad research expertise: •Cryospheric-Hazard and Risk; •Glacial Lake Outburst Flood (GLOF); •Early Warning System (EWS); •GLOF risk assessment for Hydropower; •Glacier dynamics; •Glacier Geomorphology; •Climate Change; •Socio-economic impacts of glacier hazards and risks; •Remote Sensing and GIS; •Hyperspectral Remote Sensing; •Machine learning and Deep- learning application in glacier hazards

Specific research expertise:

• GLOFs and debris flow modeling; • GLOF risk assessment for Hydropower; • Modeling of mass movements/slope failures (landslides and avalanches in periglacial environments); • GIS and field-based Early Warning System (EWS) design for mountain hazard; • Remote Sensing/GIS-based characterization of glaciers; • Interdisciplinary research on mountain hazards and their socio-environmental impacts; • Climate change impact on the cryosphere; •Glacier geomorphology-mapping and monitoring; • Geomorphological reconstructions; • Large-scale high-mountain hazard and risk modeling; • Adaptation and disaster risk reduction

Professional Preparation:

- Ph.D., **Indian Institute of Technology (IIT) Roorkee**, 2019. **Doctoral work** - Modeling-based characterization of glaciers and Glacial Lake Outburst Floods (GLOF) using earth observation techniques. Supervisors- Dr. Ajanta Goswami and Dr. Anil V. Kulkarni (Divecha Center for Climate Change, IISc Bangalore).

Appointments:

- 11/2023 – present: **Assistant Professor, IIT Bhubaneswar;** *established **'Cryosense Lab'** on Glacier Hazards* (https://sites.google.com/view/cryosenselab-glacierhazards/)
- 10/2022 – 11/2023: DST Inspire Faculty, Divecha Center for Climate Change, **IISc Bangalore** ***(Broad research: Glacier Hazards in the Himalaya)***
- 10/2021 – 09/2022: Postdoctoral Researcher, **University of Zurich, Switzerland**; ***(Broad research: Glacier Hazards in the Himalaya)***
- 01/2021 – 08/2021: Federal Postdoctoral Researcher, **University of Zurich, Switzerland (Swiss Govt. funded)**
- 01/2020 – 01/2021: **NASA funded** Postdoctoral Researcher, **University of Dayton, OH. USA** ***(Broad research: Glacier Hazards in the Nepal and Indian Himalaya)***
- 04/2015 – 10/2019: Ph.D (JRF & SRF) - Remote sensing, glacier, and Glacial Lake Outburst Flood (GLOF) modeling, 2019, **IIT Roorkee, India** ***(Broad research: Glacier Hazards in the Himalaya)***
- 05/2014 – 02/2015: Research and Teaching Assistant, **IISc Bangalore, India.**
- 10/2013 – 10/2014 Junior Research Fellow, **IIT Kanpur, India.**

Publications in "Science":

S.No.	Author(s)	Title	Name of Journal	Journal Impact Factor	Year
1	**Ashim Sattar**, KL Cook, SK Rai, E Berthier, S Allen, S Rinzin et al.	The Sikkim flood of October 2023: Drivers, causes and impacts of a multihazard cascade	***Science***	**47.73**	**2025**
2	Shugar, D.H., Jacquemart, M., Shean, D., Bhushan, S., Upadhyay, K., **Sattar, Ashim**., et al.	A massive rock and ice avalanche caused the 2021 disaster at Chamoli, Indian Himalaya.	***Science***	**47.73**	**2021**

Research statistics and Relevant peer-reviewed journal publications since 2019:

Citations	**2707 (as of October 2026)**
h-index	**20 (as of October 2026)**
i10-index	**25 (as of October 2026)**

Total: 39 publications Q1- 36 Publications Q2- 03 Publications In review-04 Publications

Impact factor	Number of publications (as of October 2026)	Journal
2-4	11	JGR Earth Surface; Scientific Reports Nature
4-6	11	Bulletin of the American Meteorological Society (BAMS); Natural Hazards and Earth System Science
6-8	8	Journal of Hydrology; Urban Climate
8 and above	9	Communications Earth & Environment; Science Bulletin; JGR Earths Future

Book Chapters:

1. Anil V Kulkarni, Roja Asharaf, **Ashim Sattar**- Hindukush Karakoram Himalayan Glaciers: A Cryospheric Asset (2024); Book: Polar Ice and Global Warming in Cryosphere Regions; Taylor and Francis; ISBN9781003364115.

Scientific Reports:

1. Holger Frey, **Ashim Sattar**, Frank Paul- Glacier Science in the Alps Use case Geohazards Report, prepared under European Space Agency (ESA) contract.

2. **Ashim Sattar**, Holger Frey, Simon Allen- Hazard and exposure mapping for outburst floods from Shako Cho and South Lhonak glacial lakes in Sikkim, India (2022), University of Zurich, Swiss Development corporation, Geotest, University of Geneva

3. Simon Allen and **Ashim Sattar**- Modelling of outburst flood hazard from Lake Sarez, Tajikistan (2023)

Life Membership of Professional Societies:

Society	Membership
Indian Society of Remote Sensing (ISRS)	(L-5215)
Indian Society of Geomatics (ISG)	(ISG-L-2177)
Geological Society of India (GSI)	(M-0286)
Indian Meteorological Society (IMS)	(LM-3794)
Indian Association of Hydrologists	(LM-2090)

Representation in G-20 India:

1. Invited panelist at the Youth-20 Consultation Summit on the theme "Climate Change, Disaster Risk Reduction & Sustainability- A Way of Life" under the aegis of the Union Ministry of Youth Affairs & Sports, Government of India, May 11, 2023.

International/National Fellowships/awards/funding Awarded:

	Fellowship/award/funding
International	Nehru Grimssion Fellowship (2018); Swiss Government Excellence Award (2021); NASA-funded Postdoc (2020)
National	• DST INSPIRE FELLOWSHIP (2015); DST INSPIRE FACULTY AWARD (2022) • Prof. M.N.Viswanathaiah Endowment Gold Medal, 2013 (Master in Science, Applied Geology) • Prof. Chind Prasad Rao Memorial Gold medal, 2013 (Master in Science, Applied Geology) • Prof. P.N.Satish Gold Medal, 2013 (Master in Science, Applied Geology)

	• Best Research Presentation Award, 2017- NCPOR, Goa. • Runners in the 'HIMASHILED GRAND CHALLENGE, 2025'- A national-level challenge to develop innovative and sustainable Indigenous solutions for GLOF mitigation, organized by Ministry of Electronics & Information Technology and Centre for Development of Advanced Computing (C-DAC), Govt. of India.

Journal Editor:

Journal	Role	Link
Frontiers in Remote Sensing	Guest Associate Editor	https://www.frontiersin.org/research-topics/26359/cryospheric-remote-sensing
Frontiers	Review Editor	https://www.frontiersin.org/journals/all/sections/hydrosphere#editorial-board
Science of Remote Sensing	Guest Editor	https://www.sciencedirect.com/journal/science-of-remote-sensing/about/call-for-papers#remote-sensing-of-cryosphere-and-environmental-change-in-the-third-pole
Frontiers in Water	Topic Editor	https://www.frontiersin.org/research-topics/61667/our-changing-cryosphere-understanding-its-dynamics-hazards-and-implications-for-water-security

Details of research/industrial projects:

Number of Projects	Role	Status	Funding Agency
3	PI	Ongoing: 2, Sanctioned: 1	DST, Govt. of India; MoES
2	Co-PI	Ongoing: 2	DST; DGRE, Govt. of India
1	JEAI Young Collaborator	Ongoing	IRD France

PhD and M.Sc Thesis Supervision:

Thesis Type	Number of students	Status	Role
Ph.D	6	Completed: 1; Ongoing: 5	Supervisor: 4; Co-supervisor: 2
M.Sc	8	Completed: 5; Ongoing: 3	Supervisor

Invited Speaker:

Role	Number of events
Invited speaker	22
Resource person/Technical Expert	5

Papers in Conference/Symposia:

Conference type	Numbers of papers
International	18
National	3