

## **Dr. Swati Sharma Assistant Professor (Grade-I)**

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### **AREA OF INTERESTS:**

#### **Research Interest:**

Application of Remote Sensing and GIS in Landslide Hazard

Landform Evolution Modelling

Slope displacements in dam reservoir areas

Debris flow analysis in Himalayan Region

Landslide analysis using Optical and Multispectral Remote sensing data

#### **Teaching interest:**

Geomorphology, Engineering Geology, Geohazards, Remote Sensing techniques in Geology, Environmental Geology, Igneous and Metamorphic Petrology, Stratigraphy, Sedimentology

### **Academic Qualifications:**

1.	Degree	Year	Subject	University/Institution	% of marks
	B.Sc. Honours Geology	2010	Geology	Panjab University, Chandigarh	69%
2.	M.Sc. Honours Geology	2012	Geology	Panjab University, Chandigarh	74% (Rank Holder)
3.	PhD (Doctorate)	2014-2019 (Awarded)	Earth and Environmental Sciences	Central University of Himachal Pradesh, India	120 credits
4.	Python Programming	2022	Certificate Course	NIELIT Gorakhpur	86% Score
5.	Machine Learning Using Python	2022	Certificate Course	NIELIT Lucknow	A Grade

### **Ph.D. Thesis**

**Title:** GIS based Landslide Susceptibility Zonation of Gaj Watershed of Beas River and Dharamshala Region in Kangra Valley, Himachal Pradesh with special reference to slope stability analysis of Tira Lines Landslide at Dharamshala Cantonment.

**Year of Completion:** 2019

**Awarded:** January 2020

### **Awards/Fellowships:**

- Council of Scientific and Industrial Research (CSIR), National Eligibility Test (NET) – 2012, (AIR-22 in Lecturership).
- Department of Science and Technology (DST) Junior Research fellowship from Natural Resource Data Management System (NRDMS) Branch, Govt. of India.
- Senior Research Fellowship from Department of Civil Engineering, Punjab Engineering College, Chandigarh, India.
- Best Oral Presentation Award (Landslide Management and Mitigation Strategies – 2015), DRDO, New Delhi, India.
- Certified for Organizing TEQIP sponsored workshop on GIS & ENVI tools, Punjab Engineering College, Chandigarh, India.

### **Conference/Seminar/Training attended:**

- ✓ **Presented poster** at 11<sup>th</sup> Asian regional conference of international association of engineering geology on engineering geology for disaster management- 28<sup>th</sup> to 30<sup>th</sup> November 2017 at **Kathmandu, Nepal**. Paper entitled “AHP based landslide hazard zonation of Dharamshala region of District Kangra, Himachal Pradesh, India.
- ✓ **Presented paper** in National seminar on “Landslides: Management & mitigation strategies LAMAMIS- 2015” (5-6<sup>th</sup> Feb. 2015), at **DRDO, Delhi**, India.
- ✓ **Presented paper** entitled “Impact of traditional building practices in highly seismic zones of Himalaya” in National conference on innovative trends in Science, Technology and Management on 19<sup>th</sup> June 2015.
- ✓ **Presented paper** entitled “Geotechnical investigation of shallow rotational landslide at Tira lines for hazard assessment” in 3 days (5<sup>th</sup> Nov.-7<sup>th</sup> Nov., 2014) National workshop on “Status of Natural hazards in Himachal Pradesh” organized at **Central university of Himachal Pradesh**, India.
- ✓ **Presented paper** in National Conference on “Multi-disciplinary national conference on innovative trends in Science, Technology and Management” (5-6 July 2014), at **Sri Sai University Palampur**, Himachal Pradesh, India.
- ✓ Certified for **Five days Training program** on “Disaster Risk, Vulnerability Assessment and Management” at National Institute of Disaster Management & Delhi Technological University, 29<sup>th</sup> June to 3<sup>rd</sup> July 2020.
- ✓ **Seven days training** on Erdas and Geomedia at Central University of Himachal Pradesh, India, 2014.

## **List of Publications:**

- **Sharma, Swati.**, Mahajan, A.K. Comparative evaluation of GIS-based landslide susceptibility mapping using statistical and heuristic approach for Dharamshala region of Kangra Valley, India. *Geoenvirom Disasters* **5**, 4 (2018). <https://doi.org/10.1186/s40677-018-0097-1>, **Scopus Indexed, Impact Factor- 1.494.**
- **Sharma, Swati.**, Mahajan, A.K. A comparative assessment of information value, frequency ratio and analytical hierarchy process models for landslide susceptibility mapping of a Himalayan watershed, India. *Bull Eng Geol Environ* **78**, 2431–2448 (2019). <https://doi.org/10.1007/s10064-018-1259-9>, **Scopus Indexed, Impact Factor- 4.298.**
- Hussain, G., Singh, Y., Bhat, G.M. **Sharma, Swati.** et al. Geotechnical Characterisation and Finite Element Analysis of Two Landslides along the National Highway 1-A (Ladakh Region, Jammu and Kashmir). *J Geol Soc India* **94**, 93–99 (2019). <https://doi.org/10.1007/s12594-019-1272-z>, **Scopus Indexed, Impact Factor- 1.459.**
- **Sharma, Swati.**, Mahajan, A.K. Information value based landslide susceptibility zonation of Dharamshala region, northwestern Himalaya, India. *Spat. Inf. Res.* **27**, 553–564 (2019). <https://doi.org/10.1007/s41324-019-00259-z>, **Scopus Indexed, Impact Factor- 2.0.**
- **Sharma, Swati.**, Mahajan, A.K. GIS-based sub-watershed prioritization through morphometric analysis in the outer Himalayan region of India. *Appl Water Sci* **10**, 163 (2020). <https://doi.org/10.1007/s13201-020-01243-x>, **Scopus Indexed, Impact Factor- 3.874.**
- Pandit, K., Singh, M., **Sharma, Swati.** et al. Back-Analysis of a Debris Slope through Numerical Methods and Field Observations of Slope Displacements. *Indian Geotech J* **51**, 811–828 (2021). <https://doi.org/10.1007/s40098-021-00553-4>, **Scopus Indexed, Impact Factor- 1.393.**
- Mahajan, A.K., **Sharma, Swati.**, Patial, S. et al. A brief address of the causal factors, mechanisms, and the effects of a major landslide in Kangra valley, North-Western Himalaya, India. *Arab J Geosci* **15**, 925 (2022). <https://doi.org/10.1007/s12517-022-10163-w>, **Scopus Indexed, Impact Factor- 1.827.**
- **Sharma, Swati.**, Singh Sandhu, H.A., Arora, M.K. (2021). Surface Displacement Analysis of Road-Cut Slopes in the Vicinity of Koteswar Area, Uttarakhand, India. In: Rai, P.K., Singh, P., Mishra, V.N. (eds) *Recent Technologies for Disaster Management and Risk Reduction*. Earth and Environmental Sciences Library. Springer, Cham. [https://doi.org/10.1007/978-3-030-76116-5\\_5](https://doi.org/10.1007/978-3-030-76116-5_5).
- **Sharma, Swati.**, Mahajan, A.K. (2012). Geotechnical Characterization of Kangra Valley Landslide, India. *Journal of Disaster & Development* **8**, (1), National

Institute of Disaster Management, Govt. of India. **ISSN: 0973-6700**

- Rohan Kumar, Har Amrit Singh Sandhu, Manoj Arora, **Swati Sharma. (2019)**. Slope movement analysis using Sentinel-1 SAR data: A case study of Koteshwar reservoir rim region. 21(10), 584-589, **ISSN: 0374-8588**.
- **Swati Sharma**, Har Amrit Singh Sandhu, Rohan Kumar, Manoj Arora. Annual ground displacement mapping and its back analysis for critical slopes along Tehri dam to Koteshwar dam, Uttarakhand, India. **(Chapter - Under Revision)**. Technological Development in Landslide - Detection, Prediction and Monitoring. Springer Book Series.

### **Reviewer in International Journals:**

- Frontiers of Earth Science
- Scientific African

### **Work Experience:**

- August 2022 to Present: Assistant Professor (Grade – 1), AIGIRS, Amity University, Noida, India.
- September 2019 – May 2021: Project SRF, PEC, Chandigarh, Sponsored by Tehri Dam Corporation Limited, India.
- February 2015 – March 2017: DST Project JRF, Central University of Himachal Pradesh, India.
- March 2013 – November 2013: Assistant Professor (Guest): Department of Geology, Himachal Pradesh University Regional Center, India.