

# Dr. Sapna Semwal | Assistant Professor

## Hemvati Nandan Bahuguna University (A Central University)

### India

HNB Garhwal University, Dr. BGR Campus, Pauri Garhwal - 246001, Uttarakhand, India

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## Education

Program	Institution/Board	Year
<i>Post Doctorate</i>	Indian Council of Social Science & Research <i>JNU, New Delhi</i>	2022-2023
<i>Doctor of Philosophy</i>	DBS PG College <i>Dehradun, Uttarakhand</i>	2015-2018
<i>M.Sc</i> (Advanced RS & GIS Technology)	The Global Open University <i>Dimapur, Nagaland</i>	2016
<i>P.G. Diploma</i> (Remote Sensing & GIS)	Indian Institute of Remote Sensing <i>Dehradun, Uttarakhand</i>	2014
<i>M.A.</i> (Geography)	HNB Garhwal Central University <i>Srinagar, Uttarakhand</i>	2013
<i>B.A.</i>	HNB Garhwal Central University <i>Srinagar, Uttarakhand</i>	2011
<i>Secondary School</i>	Uttarakhand Board <i>Lamgondi, Uttarakhand</i>	2008
<i>High School</i>	Uttarakhand Board <i>Lamgondi, Uttarakhand</i>	2006

## Key Projects

### 1. *Project 1*

(Project Supervisor: Dr. Rajesh Joshi)

*G.B. Pant Himalayan National Institute of Mountain Development*

- o **Kailash Sacred Landscape Conservation and Development (KSLCDI):** Regional Program on Trans-boundary Landscapes at the International Centre for **Integrated Mountain Development (ICIMOD)**, Phase I

### 2. *Project 2*

(Ministry of Environment Forest and Climate Change)

*Forest Survey of India (FSI)*

- o **e-Green Watch:** A web GIS application which monitors various activities taken under **Compensatory Afforestation, Fund Management, and Planning Authority (CAMPA)**.

### 3. *Project 3*

(Ministry of Environment Forest and Climate Change)

*Forest Survey of India (FSI)*

- o **Forest Cover Mapping of Bihar:** The project involves using research and development using high resolution LISS IV (5.8 m) data and mapped the forest and plantation of Bihar and provides the suitable or potential places where plantation can be taken up in future.

### 4. *Project 4*

(Ministry of Environment Forest and Climate Change)

*Forest Survey of India (FSI)*

- o **Forest Cover Mapping of India:** to assess the forest cover mapping of India biennially and come out a report called **Indian State of Forest Report (ISFR)**.

### 5. *Project 5*

(Ministry of Environment Forest and Climate Change)

*Forest Survey of India (FSI)*

- o **Revisiting of Forest Type Mapping:** A center of excellence project which involves mapping of forest type of India utilizing Champion & Amp Seth (1968) algorithm.

## Other Projects

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### 1. **Project 1**

(Hon'ble Supreme Court)

Wildlife Division of MoEF&CC

- The analysis and quality checking of the rejected polygons sent by the state government for the purpose of encroachment

### 2. **Project 2**

(Food and Agriculture Organization of the United Nations)

MoEF&CC

- India land use land classification for the purpose of Forest Resource Assessment 2020 survey

## Work Experience

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### 1. **Doon University**

October 2019 - December 2022

(Guest Faculty)

- Teaching and supervising PG students.
- Providing demonstrations and supervising experiments.
- Supervision and evaluation of PG dissertation projects.
- Providing Professors and Department Heads with feedback on student progress.

### 2. **Forest Survey of India (Dehradun)**

January 2018 - October 2019

(Senior Technical Associate)

- Development of GIS maps as per the request received from MoEF&CC.
- Analyzing relevant data for the publication of Indian States Forest Report (ISFR).
- Extraction of ground information from the Satellite images utilizing remote sensing and GIS techniques.
- Inventory development containing information on forest resources and non-forest areas of the country.
- Database generation that contains information about natural resources within country.
- Data validation by conducting field surveys across the country.

### 3. **Shri. Guru Ram Rai University (Dehradun)**

June 2023 - December 2023

(Visiting Guest Faculty)

- Review of course structure on remote sensing technology and provide suggestions on improvement measures.
- Delivery of lectures on remote sensing & GIS technology.
- Designing extra-curriculum learning activities

### 4. **G.B. Pant Himalayan National Institute of Mountain Development**

September 2014 - February 2015

(Junior Research Fellow)

- The development of a functional overarching governance mechanism for trans-boundary cooperation and collaboration.
- Influencing policy and practice by contributing to strategic documents at country level.
- Innovative livelihood interventions in India and Nepal.

## Invited Talks

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- Invited as an expert for the, *Virtual workshop on Basics of Remote Sensing* organized by Department of Remote Sensing & GIS, Uttarakhand Open University, Dehradun.
- Invited as a special guest to deliver a lecture on *Global Positioning System (GPS)*, organized by Shri Guru Ram Rai University, Dehradun.
- Invited as a special guest to deliver a lecture on *Units of measurements, map distance and ground distance, R.F, verbal, bar scale, scale conversions and Coordinate system*, organized by Department of Remote Sensing & GIS, Uttarakhand Open University, Dehradun.

## Online Courses

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- IIRS: *Remote Sensing and GIS Application in Carbon Forestry* (February 2017 - March 2017 ), *Remote Sensing and Digital Image Analysis* (June 2021), *Geographical Information System* (July 2021)

## Memberships

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- Life time member of *Indian Institute of Geomorphology*, India.
- Life time member of *Indian Remote Sensing Society*, Dehradun.

## Technical Skills

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- Programming Language: Python
- Operating System: Windows
- Geospatial Tools: QGIS, ERDAS Imagine, ArcGIS
- Office Tools: Latex, CorelDraw, Microsoft Visio, Microsoft Office

## Positions of Responsibility

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- *Admission Counsler* at Doon University for the session (2020-2022).
- *Resource Person* for the draft development of entrance exam in the Department of Geography at Doon University for the session (2020-2022).
- *Rapporteur* in the International Conference on **Bharatiya Women: A True Perspective** held on (November 25-26, 2022).
- *Convener* of National Webinar on **Himalaya Environment and Development** at 96th birth anniversary celebration of Dr Nityanad ji, (Feb 9, 2022).

## Workshops/Webinars/Training

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- Participated in the national webinar, *Water Resource Management in Northeast India* jointly organized by Mizoram University & National Mission on Himalayan Studies (NMHS)(August, 2021).
- Participated in *2nd Intensive Training Program for the Young Geomorphologist*, organized by IGI-Young Geomorphologist Forum (November, 2021).
- Participated in the training programme on *Botany and Preservation*, organized by Botanical Survey of India (May 2018).
- Participated in *Geo-Spatial Technology Platform for Indian Forestry* workshop, jointly organized by ESRI India & Forest Survey of India (November 15, 2016).
- Participated in *Geo-Spatial Technology Platform for Indian Forestry* workshop, jointly organized by Hexagon Geospatial & Forest Survey of India (November 16, 2016).

## Achievements/Awards

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- Successfully qualified *UGC-NET* (2017),
- Awarded as *Young Scientist by Uttarakhand Science Congress* in Geography discipline for the contribution in estimating precipitation of Himalayan Landscape using remote sensing techniques (2015).
- Received the *Best Paper Presentation Award* in the National Seminar on Geo- Environmental Hazards and Neo-Tectonic Activities in Himalaya organized by Department of Geology, HNB Garhwal University, Tehri (2014).

## Symposia

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- *9th International Conference on Geomorphology*  
Date: November 6 - 11, 2017  
Location: Vigyan Bhawan in New Delhi, India
- *European Geosciences Union (EGU) Conference*  
Date: April 8 - 13, 2018  
Location: Vienna (Austria)
- *1st Arabian Journal of Geosciences (CAJG) Conference*  
Date: November 12 - 15, 2018  
Location: Hammamet, Tunisia
- *Conference on Geoenvironmental Hazards and Neo-Tectonic Activities in Himalaya*  
Date: October 28 - 30, 2014  
Location: H.N.B. Garhwal University, SRT campus, Badshahi Thaul, Tehri Garhwal
- *11th Uttarakhand State Science & Technology Congress*  
Date: March 2 - 4, 2017  
Location: Uttarakhand State Council for Science & Technology, Vigyan Dham, Dehradun

## Conference Publications

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- **Sapna Semwal** and D.D. Chauniyal, "[Pool and riffle sequences and morphology of lower Alaknanda river in Srinagar valley \(Garhwal lesser himalaya\), India](#)", *Paleobiodiversity and Tectono-Sedimentary Records in the Mediterranean Tethys and Related Eastern Areas: Proceedings of the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), Tunisia*, pp. 327-329, 2019.

## Journal Publications

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- **Sapna Semwal** and D.D. Chauniyal, "[Landslide Hazard Zonation using Geo-Spatial Techniques in a part of Mandakini Valley \(Garhwal Himalaya\)](#)", *Journal of Sustainable Environmental Research (JSER)*, Vol. 3(2), pp. 141-148, 2015.
- **Sapna Semwal** and D.D. Chauniyal, "[Meanders Geometry of Alaknanda River in Srinagar Valley \(Garhwal Himalaya\)](#)", *Indian Journal of Geography and Environment*, Vol. 15(16), pp. 49-61, 2018.
- **Sapna Semwal** and D.D. Chauniyal, "[Geomorphic Study of Channel Bars in Alaknanda River of Srinagar Valley, Garhwal Himalaya, Uttarakhand](#)", *Indian Journal of Geography and Environment*, Vol. 7, pp. 63-78, 2019.
- **Sapna Semwal** and D.D. Chauniyal, "[Tectonic Control on the Meanders Pattern of Alaknanda River in Srinagar Valley, Garhwal Himalaya, India](#)", *Himalayan Neotectonics and Channel Evolution, Springer*, pp. 133-150, 2022.
- **Sapna Semwal** and D.D. Chauniyal, "[Impact of dam on channel morphology of alaknanda river in srinagar valley \(Garhwal Himalaya\)](#)", *Himalayan Journal of Social Sciences and Humanities*, Vol. 14(10), 2019.
- **Sapna Semwal**, Jyoti Prakash Gupts, and Devendra Singh, "[Relief Analysis of Srinagar Valley \(Garhwal Himalaya\)](#)", *International Quaterly Research Magazine (International Refereed Journal)*, UGC List No. 41243, No. 33, pp. 353-361, 2019. (ISSN: 2229-7227)
- **Sapna Semwal** and D.D. Chauniyal, "[Evaluation of Bed Load Sediments in Srinagar Valley of Alaknanda River \(Garhwal Himalaya\) India](#)", *International Journal of Science and Research (IJSR)*, Vol. 9(4), pp. 1602-1609, 2020. (ISSN: 2319-7064)
- D.D. Chauniyal and **Sapna Semwal** "[A Geomorphological Interpretation of Rishi Ganga Flash Flood, Garhwal Himalaya, India](#)", *Journal of Indian Geomorphology*, Vol. 9, pp. 89-103, 2021.
- D.D. Chauniyal, Surajit Dutta, and **Sapna Semwal** "[Changing Pattern of Channel Morphology of Alaknanda River in Srinagar Valley \(Garhwal Himalaya\)](#)", *Journal of the Indian Society of Remote Sensing*, Vol. 46, pp. 1379-1387, 2018.

## Specialization

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- Geo-morphology
- Cartography
- River Channel Morphology & Hydro-logical Modeling
- Landslide Hazard zonation modeling
- Application of Remote Sensing and GIS
- Environmental Geography
- Women Studies

## Area of Interest

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- Himalayan region (All physical and social problems)

## Declaration

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I do hereby declare that all the details furnished above are true to the best of my knowledge and belief.

Place: Pauri Garhwal, Uttarakhand (India)

(Dr. Sapna Semwal)