

# Dr SUGANDHA PANWAR

Postdoctoral Researcher

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## EDUCATION

- PhD**, Indian Institute of Technology Roorkee, India 2016  
Thesis Title: Characterization of Sediments of the Alaknanda River, Garhwal Himalaya, India
- MS** (Geology), H.N.B Garhwal University, Uttarakhand, India 2010
- BSc** (Zoology, Botany, and Geology), H.N.B Garhwal University, Uttarakhand, India 2008

## APPOINTMENTS

- Postdoctoral Researcher, University of Houston, USA. *The Linkages Between Forest Fire-Human-Climate Interactions and Resultant Organic Carbon Flux in Madagascar* (May 2022 to Present)
- Postdoctoral Researcher, Tongji University, China. *The Impact of Three Gorges Dam and Drought Events on the Particulate Organic Carbon Cycle in the Lower Changjiang (Yangtze) Basin* (2018 to 2021)
- Research Associate, Wadia Institute of Himalayan Geology, India. *Status of Geo-resources and Impact Assessment of Geological (Exogenic) Processes in NW Himalayan Ecosystem, India* (2017 to 2018)
- Junior Research Fellow, Uttarakhand Space Application Centre, India. *National Geomorphology and Lineament Mapping on 1:50,000 scale using LISS-III satellite images* (2010 to 2011)

## RESEARCH INTEREST

Environmental Geochemistry, River Geochemistry, Source to Sink Processes, Organic Carbon Cycle, Paleoenvironment Reconstruction

## RESEARCH GRANTS

- Deanship of Scientific Research, King Abdulaziz University, Jeddah. Saudi Arabia. Grant number G:207-145-1442 (2021-2022)
- China Postdoctoral Science Foundation Grant with grant number: 2019M651565 (2019-2021)
- State Key Laboratory of Marine Geology (Tongji University), Open Project Proposal – 2018 (2018-2019)

## AWARDS AND SCHOLARSHIPS

- Received 'Seal of Excellence Certificate' from European Commission under the Horizon 2020's Marie Skłodowska-Curie actions call H2020-MSCA-IF2016
- Qualified Joint CSIR-UGC Test for Junior Research Fellowship and Eligibility for Lectureship (NET), 2011
- Qualified Graduate Aptitude Test in Engineering (GATE)-2014

## PUBLICATIONS

- **Panwar, S.**, Yang, S. (2022). Influence of Three Gorges Dam and Drought on Particulate Organic Carbon Flux and its Source in the Lower Yangtze River. *Biogeochemistry* 158, 269–284.
- Khan, M.Y.A., \***Panwar, S.** (corresponding author), Jie Wen (2022). Geochemistry of the Dissolved Load of the Ramganga River, Ganga Basin, India: Anthropogenic Impacts and Chemical Weathering. *Frontiers in Environmental Science*, DOI: 10.3389/fenvs.2022.823385.

- **Panwar, S.**, Yang, S., Srivastava, P., Khan, M.Y.A., Sangode, S., Chakrapani, G.J. (2020). Environmental Magnetic Characterization of the Alaknanda and Ramganga River Sediments, Ganga Basin, India. *Catena* 190, 104529.
- **Panwar, S.** (2020). Vulnerability of Himalayan Springs to Climate Change and Anthropogenic Impact: A Review. *Journal of Mountain Science* 17(1), 117-132.
- Yue, W., Yue, X., **Panwar, S.**, Zhang, L., Jin B. (2019). The Chemical Composition and Surface Texture of Transparent Heavy Minerals from Core LQ24 in the Changjiang Delta. *Minerals* 9 (454), 16. MDPI Publ.
- **Panwar, S.**, Agarwal, V., Chakrapani, G.J. (2017). Morphometric and Sediment Source Characterization of the Alaknanda River Basin, Headwaters of River Ganga, India. *Natural Hazards* 87, 1649-1671.
- **Panwar, S.**, Gaur, D.G., Chakrapani, G.J. (2017). Total Organic Carbon Transport by the Alaknanda River, Garhwal Himalayas, India. *Arabian Journal of Geosciences* 10, 207.
- **Panwar, S.**, Chakrapani, G.J. (2016). Seasonal Variability of Grain Size, Weathering Intensity and Provenance of Channel Sediments in the Alaknanda River Basin, an Upstream of River Ganga, India. *Environmental Earth Sciences* 75, 998.
- Khan, M.Y.A., Hasan, F., **Panwar, S.**, Chakrapani, G.J. (2016). Neural Network Model for Discharge and Water Level Prediction for Ramganga River Catchment of Ganga Basin, India. *Hydrological Sciences Journal* 61(11), 2084-2095.
- **Panwar, S.**, Khan, M.Y.A., Chakrapani, G.J. (2016). Grain Size Characteristics and Provenance Determination of Sediment and Dissolved Load of Alaknanda River, Garhwal Himalayas, India. *Environmental Earth Sciences* 75, 91.
- **Panwar, S.**, Chakrapani, G.J. (2013). Climate Change and Its Influence on Groundwater Resources. *Current Science* 105, 37-46.

#### *Book Chapters*

- **Panwar, S.**, Mishra, M., Chakrapani, G.J. (2017). Orogeny as a Controller of Climate Change and Monsoon. Development of Water Resources in India 75, 311-325. Springer International Publishing DOI: 10.1007/978-3-319-55125-8\_27
- **Panwar, S.**, Chakrapani, G.J. (2016). Spatial and Temporal Variability in Grain Sizes of Alaknanda River. In *Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment* pp. 313-319. Springer International Publishing DOI 10.1007/978-3-319-18663-4

#### *Conferences*

- **Panwar, S.**, Khan, M.Y.A., Voarintsoa, Ny Riavo (2022) Anthropogenic Impact on the Dissolved Load Geochemistry of the Ramganga River, Ganga Basin, India. AGU Fall Meeting 2022, Chicago
- **Panwar, S.**, Chakrapani, G.J., Yang, S. (2018). Environmental Magnetism to Distinguish Source Lithology and Sediment Mixing Pattern in the Alaknanda and Ramganga Sub-Catchments, Ganga Basin, India. 9<sup>th</sup> International Conference on Asian Marine Geology, Tongji University, Shanghai
- Agarwal, V., **Panwar, S.**, Ghosh, S.K., Dubey, O.P. (2017). Study of Change in Water Content of Uttarakhand Using GRACE Satellite Gravity Field Data. International Conference on Urban Geoinformatics. Teri University, New Delhi
- **Panwar, S.**, Mishra, M., Chakrapani, G.J. (2016). Orogeny as a Controller of Climate Change and Monsoon. Water Resources and Hydropower 2016. UPES, Dehradun

- **Panwar, S.**, Chakrapani, G.J. (2015). Erosion Risk Estimation of Alaknanda River Basin Using Morphometric Indices. 20<sup>th</sup> International Conference on Hydraulics, Water Resources and River Engineering. HYDRO-2015, Indian Institute of Technology Roorkee, Roorkee
- Khan, M.Y.A., **Panwar, S.** (2014). Variability in Sediment Size of Two Sub-Catchment Areas of Ganga basin, Western Himalayas. International Journal of Engineering Research, Issue Special 3. ISSN: 2319-6890
- **Panwar, S.**, Chakrapani, G.J. (2014). Spatial and Temporal Variability in Grain Sizes of Alaknanda River. Proceedings of the 16<sup>th</sup> International Association of Mathematical Geosciences, New Delhi. ISBN 978-93-81891-25-4
- **Panwar, S.**, Khan, M.Y.A. (2014). Factors Influencing Sediment Yield in Upper Ganga Basin. EnviroGeoChimica Acta 1(1), 77-85
- **Panwar, S.**, Gupta, M., Khan, M.Y.A. (2013). Groundwater Quality Assessment of Dehradun city using Geographic Information System. National Conference on Earth Sciences in India: Challenges and Emerging Trends (ESICET-2013). Hosted by Department of Earth Sciences, IIT Roorkee, pp. 67
- **Panwar, S.**, Chakrapani, G.J. (2013). Size Characteristics of Suspended and Bank Sediments of Alaknanda River. IGCP581-Evolution of Asian River System, Ha Noi, Vietnam, pp. 19.

#### **AFFILIATIONS**

Geological Society of America (GSA)

American Geophysical Union (AGU)

American Association of University Women (AAUW)