

DR. PANKAJ CHAUHAN, WIHG, DEHRADUN INDIA



<https://scholar.google.com/citations?user=wiWNf-oAAAAJ&hl=en>

RESEARCH GROUP: Artificial intelligence center of excellence in geoscience

FIELD OF SPECIALIZATION: Glaciology, Hydrometeorology, Natural Hazards, Climate Change, Machine Learning & IoT, Information Technology, Remote Sensing & GIS

EDUCATION:

2014 Ph.D. Hydrology, H.N.B. Garhwal University, Srinagar Garhwal 2012

M.Sc. Geo-informatics, VMRF, Salem, TN

2006 M.Sc. Information Technology, H.N.B. Garhwal University, Srinagar Garhwal 2004

Higher Diploma in Software Engineering, APTECH (Infotech_Pvt. Ltd, D.Dun 2002 Masters in Geography, H.N.B. Garhwal University, Srinagar Garhwal

PROFESSIONAL EXPERIENCE:

Scientist –C at Wadia Institute of Himalayan Geology, Dehradun (2024-Till date)

Scientist –B at Wadia Institute of Himalayan Geology, Dehradun (2020-2023)

Principal Investigator of SERB Project at Wadia Institute of Himalayan Geology (2018)

Tech. Officer (Jr) at Centre for Glaciology, Wadia Institute of Himalayan Geology (2013) Jr. & Sr.

Tech. Asstt. at Computer & Networking section WIHG, Dehradun (2007)

JRF/ SRF at Forest Survey of India (2006)

GIS expert, at Geo-spatial data center, Survey of India, Dehradun (2003)

VISITING POSITIONS:

- Speaker, in August, 2020 of AICTE Sponsored, (Training and Learning Academy) Faculty Development Program (FDP) on Sustainable Engineering, Organized by Gaya of Civil Engineering, Gaya.
- Invited Lecture delivered on 19.11.2022 in 21 days DST-NGP sponsored training program on Geospatial Technologies scheduled to be held between November 10-30, 2022 at Department of Civil Engineering, Graphic Era (Deemed to be University, NAAC A+), Dehradun, Uttarakhand. Titled on “Remote Sensing in Geosciences”

- ✚ Lecture delivered on 09.09.2022 in the event of the “Himalaya Diwas”, titled “The Himalaya: Development and Destruction.”
- ✚ Lecture delivered on titled “Man and Environment” at Govt. Inter collage Khati, Kapkot, Bageshwar, Uttarakhand on 07.02.2023.
- ✚ Lecture delivered on titled “The Himalaya: Development or Destruction and the role of the early warning system” at HNB Garhwal University, Srinagar Garhwal on the golden jubilee celebration of the university on 02.03.2023.
- ✚ WIHG stall exhibited from 1.3.23 to 3.3.23 at HNB Garhwal University, Srinagar Garhwal on the golden jubilee celebration of the university.

SERVICES:

a. Supervision/Guidance to Ph.D. Students: 25

b. Training: 20

c. Teaching: Lectures delivered to school and college level students time to time

d. Membership:

- Membership of Institute of Indian Geographers, Dept. of Geography, University of Pune-411007 (India).
- Life time Membership of “The International Society for Environmental Information Sciences” 4246 Albert Street, Suite 413, Regina, Saskatchewan S4S 3R9, Canada.
- Member of IAWEES (International Association for Water, Environment, Energy, and Society, India. (Reg. No. IAWEES2020001176).

e. Editorial Board:

- Reviewer of the sixth International Conference on Water Resource and Environment (WRE 2020).
- Reviewer of “Indonesian Journal of Geography”
- Reviewer of journal “Water Resources Management”
- Reviewer of “Journal of the Geological Society of India
- Reviewer of the journal “Environmental Monitoring and assessment”
- Reviewer of the journal “Theoretical and Applied Climatology”

f. International/National Seminars/Workshop:

- Co-convenor of 5th National Geo-Research Scholars Meet (NGRSM) “(e-conference I Digital Lectures I e-Queries) “Earth Sciences for Sustainable Development” during **July 22nd - 23rd 2021**, at Wadia Institute of Himalayan Geology (WIHG), in virtual mode.

g. External Research Fund received & Project Handled:

- **Principal Investigator (PI)** in the DST, SERB funded project, titled “Hydrological cycle analysis in valleys of Pindari-Kafni glaciers, Kumaun Himalaya” 2016-2020 (**Cost Rs. 20 Lakh**).
- Worked as an associate in the DST young scientist project, titled 'micrometeorological measurements and modelling experiments in the Pindari glacier' 2015-2018 (**Cost Rs. 25 Lakh**).
- Fellowship of SERB International Research Experience (SIRE) for the year 2023-2024 supported by the Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India, with Rajib Shaw at Graduate School of Media and Governance, Keio University, Japan.

h. Member of important Committees:

- Member, Stores & Purchase, non-consumable physical verification committee (**2021-22**)
- Member of WIHG internal purchasing committee (**2021-22**).
- Committee Member for inspection of items to be procured through GEM/ store. Order dated **2021-22**.
- Acted as a evaluator for 29th National Children Science congress (NCSC) **2021-22** held at KV, IIP, Mohakkampur, Dehradun.
- Chairman, of Technical evaluation committee for AMC of computer and peripherals in **2022**.
- Member of Physical verification of consumable and non-consumable store items (**2022-23**).
- Member of Physical verification of consumable and non-consumable store items (**2023-24**).
- **Technical evaluation committee for the procurement of the instruments**

AWARDS/FELLOWSHIPS/HONORS/MEMORIAL LECTURES:

a. Awards/Medals/Prizes:

- **ONGC scholarship** for meritorious student (**2002**)
- Wadia Institute's **Best Worker Awards** continuous from (**2009 to 2013**)
- B V Ramana best paper award by Association of Agrometeorologists Gujarat, India for the year (**2018**)
- “Best scientist of the year” award 2020, from Shri Paramhans Education & Research Foundation, Delhi (**2020**)

b. Fellowships: Awarded SERB International Research Experience (**SIRE**) Fellow (**JAPAN**) for the year 2023-2024 supported by the Science and Engineering Research Board (SERB), DST, New Delhi.

c. Memorial Lectures:

d. Recognition/Honors:

COUNTRIES VISITED: Nepal, Japan

NATIONAL/INTERNATIONAL (outside CSIR-NGRI) COLLABORATION:

1. Dr. Reet Kaml Tiwari, IIT Ropar, India
2. Dr. S.K Srivastava, IIRS, Dehradun, India
3. Dr. Christoph Mayer, University of Tübingen, Germany
4. Dr. Rizwan Ahmad, AMU, India
5. Dr. Vikram Kumar Gaya Engineering Collage, Bihar, India
6. Dr. Sudhir Kumar Singh, Allahabd Unversity, Prayagraj U.P).
7. Dr. M.E. Akiner, University, Antalya, Turkey
8. Prof. Ram L. Ray, *Prairie View A&M University TX 77446, US*
9. Prof. Rajib Shaw, *Keio University, Japan*

Inside WIHG Collaborator:

PATENT -NA

SCHOLARSHIPS AWARDED, GATE NA

Ph.D. Advisor: Prof. DD Chauniyal, HNB Garhwal University, Srinagar Garhwal

LIST OF PUBLICATIONS

(a) SCI Papers:

Published:

- Akiner, M.E., **Chauhan Pankaj.**, Singh S.K. 2024. Evaluation of Surface Water Quality in the Betwa River Basin through the Water Quality Index Model and Multivariate Statistical Techniques. *Environmental Science and pollution Research; (IF 5.8)*
- Chauhan Pankaj., Akiner, M.E., Shaw, Rajib., Sain Kalachand **2024**. Forecast future disasters using hydro-meteorological datasets in the Yamuna River Basin, Western Himalaya: Using Markov Chain and LSTM approaches. *Artificial intelligence in geosciences; (AIF 2.2)*
- Garg, P.K., Mehta, M., Shukla, A., **Chauhan, P.**, Kesarwani, K. and Mukherjee, S., 2023. Supraglacial geomorphology of Companion Glacier, central Himalaya: evolution, controls and consequences Supraglacial geomorphology of Companion Glacier, central Himalaya: evolution, controls and consequences. Garg et al., 2023; *Frontiers in Earth Science; (IF 2.9)*.

- Singh, D., Karan, K., Singh, S.K., **Chauhan, P.** and Berndtsson, R., 2023. Fusing Morphometric Characteristics with Extreme Precipitation Indices for Identifying the Most Vulnerable Sub-basin at Risk of Flooding. *Journal of Hydro-environment Research*, 50 (44-56). (IF 2.8)
- **Chauhan, P.**, Sharma, J., Bhardwaj, P., Mehta, M., Shah, R.A., Singh, O. and Sain, K., 2023. Comparative analysis of discharge and sediment flux from two contiguous glacierized basins of Central Himalaya, India. *Environmental Monitoring and Assessment*, 195(6), p.729. (IF 3.307)
- Rastogi, T., Singh, J., Singh, N., **Chauhan, P.**, Yadav, R.R. and Pandey, B., 2023. Temperature variability over Dokriani glacier region, Western Himalaya, India. 664 (8), p. 33-41. *Quaternary International*. (IF 2.454)
- Sain, K., Mehta, M., Kumar, V., Gupta, V. and **Chauhan, P.**, 2023. A Climatic Surprise–Slope Instability Triggered by Heavy Rain in Maldevta Region, Dehradun, Uttarakhand, on 20 August, 2022. *Journal of the Geological Society of India*, 99(3), pp.317-320. (IF 1.466)
- Singh, D., Vardhan, M., Sahu, R., Chatterjee, D., **Chauhan, P.** and Liu, S., 2023. Machine-learning-and deep-learning-based streamflow prediction in a hilly catchment for future scenarios using CMIP6 GCM data. *Hydrology and Earth System Sciences*, 27(5), pp.1047-1075. (IF 6.617)
- Kumar, N., Singh, S.K., Singh, P.K., Gautam, D.K., Patle, P., Pandey, H.K. and **Chauhan, P.**, 2023. Water accounting of a trans-boundary river basin using satellite observations and WA+ framework. *Physics and Chemistry of the Earth, Parts A/B/C*, 129, p.103343. (IF 3.311)
- **Chauhan, Pankaj.** and Ahmad, R., 2022. Hydrological Response of Factors Affecting Rainfall Water Discharge and Water Balance: A Case Study of Tons Watershed. In Water Quality, Assessment and Management in India (pp. 129-155). Cham: *Springer International Publishing. Book chapter*
- **Chauhan, Pankaj.**, Sain, Kalachand., Mehta, M., and Singh S.K., 2022. An investigation of cloudburst, triggered landslides and flash floods in Arakot Region of Uttarkashi District, Uttarakhand India. *Geological Society of India*, (IF 1.466)
- **Chauhan, Pankaj.**, Malviya, D., Sain, K., Ray, R.L., Singh, S.K. and Singh, D., 2022. Assessing the vulnerability of watersheds to environmental degradation in the Lesser Himalayan region using satellite data and a series of models. *Geocarto International*, pp.1-28 (IF 4.889). <https://doi.org/10.1080/10106049.2022.2142958>
- **Chauhan, Pankaj.**, Akner, M.E., Sain, K. and Kumar, A., 2022. Forecasting of suspended sediment concentration in the Pindari-Kafni glacier valley in Central Himalayan region considering the impact of precipitation: using soft computing approach. *Arabian Journal of Geosciences*, 15(8), pp.1-18. (IF 1.827)
- Nilendu Singh and **Pankaj Chauhan** et al. 2022. Tree isotopic records suggest seasonal importance of moisture dynamics over glacial valleys of the Central Himalaya. *Frontiers in Earth Science*, June 2022. (IF 3.498).
- Singh, N., Singh, J., Gupta, A.K., Bräuning, A., Dimri, A.P., Ramanathan, A.L., Sharma, V., Tiwari, R.K., Chakraborty, J.S., **Chauhan, P.** and Shukla, T., 2021. Climate-driven acceleration in forest evapotranspiration fuelling extreme rainfall events in the Himalaya. *Environmental Research Letters*, 16(8), p.084042.(IF 6.793).
- Ahluwalia, R.S., Rai, S.P., Meetei, P.N., Kumar, S., Sarangi, S., **Chauhan, P.** and Karakoti, I., 2021. Spatial-diurnal variability of snow/glacier melt runoff in glacier regime river valley: Central Himalaya,

India. *Quaternary International*, 585, pp.183-194. (IF 2.2)

- Vikram Kumar, Sumit Sen, **Pankaj Chauhan** 2020. Geo-morphometric prioritization of Aglar micro watershed in Lesser Himalaya using GIS approach. *Modeling Earth Systems and Environment*, pp.1-11. (IF 3.0)
- Jayendra Singh, Nilendu Singh, **Pankaj Chauhan**, Ram R. Yadav, Achim Bräuning, Christoph Mayr and Tanupriya Rastogi 2019. Tree-ring $\delta^{18}\text{O}$ records of abating June-July monsoon rainfall over the Himalayan region in the last 273 years. *Quaternary International*, 532, pp.48-56. (IF 2.2)
- Nilendu Singh, MohitSinghal, SudershanChhikara, Indira Karakoti, **Pankaj Chauhan** and D. P. Dobhal 2019. Radiation and energy balance dynamics over a rapidly receding glacier in the central Himalaya. *International Journal of Climatology*, DOI: 10.1002/joc.6218 (IF 3.609)
- Rizwan Ahmed, **Pankaj Chauhan** and SK Srivastava 2018. Groundwater Study in Eastern Dehradun Valley and adjoining area using Remote Sensing & GIS Observation. *Journal of Himalayan Geology*. Vol. 39, No.02 ISSN: 0971-8966. (IF 1.2)
- P. Raja, Nilendu Singh, C. V. Srinivas, Mohit Singhal, **Pankaj Chauhan**, Maharaj Singh & N. K. Sinha (2017). Analyzing energy–water exchange dynamics in the Thar desert. *Journal of Climate Dynamics*. DOI 10.1007/s00382-017-3804-9 (IF. 4.901)
- **Pankaj Chauhan**, Nilendu Singh, Devi DattChauniyal, Rajeev Ahluwalia and MohitSinghal (2017). Differential behavior of a lesser Himalayan watershed in extreme rainfall regimes. *Journal of Earth System Science*. 126:22, DOI 10.1007/s12040-017-0796-0. (IF. 1.912)
- Reet Kamal Tiwari, P. K. Garg, Aparna Shukla, Rajiv S. Ahluwalia, Nilendu Singh, **Pankaj Chauhan**, 2016. A geomorphic and morphometric analysis of surface ice velocity variation of different valley type glaciers. International conference on LandSurface and Cryosphere Remote Sensing III, part of *SPIE Asia-Pacific Remote Sensing*, April- 4-7, 2016, edited by Reza khanbilvardi, AswagoshGanju, A.S. Rajawat, Jing M Chen at Space Application Centre, Ahmedabad, India. (IF. 0.937)
- **Pankaj Chauhan**, Devi Datt Chauniyal, Nilednu Singh, Reet Kamal Tiwari. 2016. “Quantitative geomorphometric and land cover based micro-watershed prioritization in the Tons river basin of the lesser Himalaya“. *Journal of Environmental Earth Sciences*75:498. DOI 10.1007/s12665-016-5342-x. (IF: 2.8).

Communicated: 04

Non-SCI Articles: NA

(b) Chapter in Books:

- **Pankaj Chauhan** & Rizwan Ahmed (2022) Hydrological Response of factors affecting Rainfall, water discharge and water balance – A case study of Tons watershed (*Springer Publication*) Edited by: **RR Yadav et al.**

(c) Books-authored/Edited volume:

(d) Abstract volume: 25