

Curriculum Vitae

Name : Dr. Vinit Kumar

Designation : Associate Professor
Department of Geology
University of Lucknow
Lucknow-226007, Uttar Pradesh, India

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vinitkumark17@gmail.com

Research interest : Cryospheric processes and Climate Change,
Glaciology (glaciers dynamics & mass balance),
High-Mountain Hazards & Risk,
Paleoglaciation/Paleoclimate reconstruction,
Remote Sensing of the Environment,
Geomorphology, and Water Resources

Google Scholar profile: <https://scholar.google.com/citations?User=n77Z6CEAAAAJ&hl=en>

ResearchGate profile : <https://www.researchgate.net/profile/Vinit-Kumar-5>

Academic Qualifications

Year	Examination Passed	Name of Board/University	Institution/School	Division
2004	High School	UP Board	MGGS HS School, Kanpur	First
2006	Intermediate	UP Board	PPN College, Kanpur	First
2009	B.Sc.	CSJM University Kanpur	PPN PG College, Kanpur	First
2012	M.Sc.	University of Lucknow	Department of Geology	First
2012	NET	CSIR	-	AIR 27
2019	PhD	University of Lucknow	Department of Geology	-

Doctorate Degree (PhD):

2012-2019: Doctor of Philosophy (PhD) in Glacial Geomorphology, Dynamics, Paleoglaciation, and Remote Sensing application in Glaciology.

Thesis Title: Study of temporal variations of snout and geomorphology of Dunagiri Glacier, Garhwal Himalaya, Chamoli District, Uttarakhand.

Professional Experiences:

Designation	Organization	Duration		Nature of Job
		From	To	
Associate Professor	D/o Geology, University of Lucknow, U.P.	01-02-2024	Continuing	Teaching
Scientist-D	Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand	01-07-2023	On-Lien	Research
Scientist-C	Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand	07-02-2019	01-07-2023	Research
Scientist-B	Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand	02-02-2015	07-02-2019	Research
Junior Research Fellow	D/o Geology, University of Lucknow, U.P.	01-11-2012	31-01-2015	Research

Trainings Programmes and Course Completed:

- Training on “**Disaster Management-Introduction and Overview**” from 03-04, February, 2012 at UPSDMI, Lucknow, U.P.
- Training on “**Geology & Society and Disaster Management**” from Feb. 29 to March 01, 2012 at Department of Geology, University of Lucknow, U.P.
- Training on “**Aquifer management through participatory approach and local ground water issue**” from 27-28, March at CGWB, NR, Lucknow, U.P.
- DST sponsored field workshop on “**Stratigraphy, Sedimentology, and Tectonics along the Jammu-Leh-Shyok Transect**” from June 20 to July 07, 2014, conducted by Department of Geology, University of Delhi.
- Completed “**Field Training Course in Glaciology**” conducted by Geological Survey of India, NR, Lucknow, at Chandigarh/Manali/Hamtah Glacier, H.P. during August 04 to Sept. 07, 2014.
- Training Course on “**Emerging Trends in Remote Sensing**” from April 20 to May 01, 2015 at National Remote Sensing Centre, ISRO, Hyderabad.
- Completed “**Refresher course on Landslide studies and Earthquake Geology**” from 19-23, March, 2018 conducted by Regional Training Centre, GSI, NR, Lucknow.

- Completed ISRO sponsored NNRMS course on “**Remote Sensing and Geographical Information System in Geosciences**” from May 01 to June 22, 2018 at IIRS, ISRO Dehradun, Uttarakhand.

Peer Reviewed Publications:

1. Rana, A.S., Kunmar, P., Mehta, M., **Kumar, V***. (2023). Glacier retreat, dynamics and bed overdeepenings of Parkachik Glacier, Ladakh Himalaya, India. *Annals of Glaciology*, 1–14. <https://doi.org/10.1017/aog.2023.50>
2. Sain, K., Mehta, M., **Kumar, V.**, Gupta, V., 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), 317-320.
3. Mehta, M., **Kumar, V***, Kunmar, P., Sain, K. (2023). Response of the Thick and Thin Debris-Covered Glaciers between 1971 and 2019 in Ladakh Himalaya, India—A Case Study from Pensilungpa and Durung-Drung Glaciers. *Sustainability*, 15(5), 4267.
4. Sain, K., Mehta, M., **Kumar, V.** (2023). Avalanche Hazards in Kedarnath Temple Town, Mandakini River Valley, Uttarakhand—A Case Study. *Journal of the Geological Society of India*, 99 (2), 173-176.
5. Bisht, M.P.S., Bisht, H., Luirei, K., Mehta, M., **Kumar, V.** (2022). Kuwari Lake: Potentially Dangerous for Landslide Lake Outburst Flood (LLOF). *Journal of the Geological Society of India*, 98, 1728–1730.
6. Sain, K., Mehta, M., **Kumar, V.** (2022). Heavy Rainfall-triggered Flash Floods around the Amarnath Holy Cave. *Journal of the Geological Society of India*, 98 (9), 1323–1324.
7. Mehta, M., Devrani, R., Luirei, K., **Kumar, V.** (2022). A report on tectonically sculptured unique glacier landform: a case study from the Tethys Kumaun Himalaya, India. *Geosciences Journal*, 26 (2), 215–224.
8. Garg, P.K., Garg, S., Yousuf, B., Shukla, A., **Kumar, V.**, Mehta, M. (2022). Stagnation of the Pensilungpa glacier, western Himalaya, India: causes and implications. *Journal of Glaciology*, 68 (268), 221–235.
9. Mehta, M., **Kumar, V.**, Sain, K., Tiwari, S.K., Kumar, A., Verma, A. (2021). Causes and Consequences of Rishiganga Flash Flood, Nanda Devi Biosphere Reserve, Central Himalaya, India. *Current Science*, 121, 1483–1487.
10. **Kumar, V***, Mehta, M., Shukla, A., Kumar, A., Garg, S. (2021). Late Quaternary glacial advances and equilibrium-line altitude changes in a semi-arid region, Suru Basin, western Himalaya. *Quaternary Science Reviews*, 267, 1–22.
11. Mehta, M., **Kumar, V.**, Garg, S., Shukla, A. (2021). Little Ice Age glacier extent and temporal changes in annual mass balance (2016–2019) of Pensilungpa Glacier, Zaskar Himalaya. *Regional Environmental Change*, 21(2), 1–18.
12. **Kumar, V***, Mehta, M., Shukla, T. (2021). Spatially resolved estimates of glacial retreat and lake changes from Gepang Gath Glacier, Chandra Basin, Western Himalaya, India. *Journal of the Geological Society of India*, 97 (5), 520–526.
13. Sain, K., Kumar, A., Mehta, M., Verma, A., Tiwari, S.K., Garg, P.K., Sen, K., **Kumar, V.** (2021). A perspective on Rishiganga-Dhauliganga flash flood in the Nanda Devi biosphere reserve, Garhwal Himalaya, India. *Journal of the Geological Society of India*, 97 (4), 335–338.

14. **Kumar, V.**, Shukla, T., Mehta, M., Dobhal, D.P., Bisht, M.P.S., Nautiyal, S.K. (2021). Glacier changes and associated climate drivers for the last three decades, Nanda Devi region, Central Himalaya, India. *Quaternary International*, 575-576, 213–226.
15. Shukla, T., **Kumar, V.**, Mehta, M., Kotlia, B. S., Meenakshi, Mal, S. (2021). Size-dependent chemical depletion of sediments in glacial environments: a case study of Mandakini Valley, central Himalaya, India. *Hydrological Sciences Journal*, 66(3) 1–16.
16. **Kumar, V***, Shukla, T., Mishra, A., Kumar, A., Mehta, M. (2020). Chronology and climate sensitivity of the post-LGM glaciation in the Dunagiri valley, Dhauliganga basin, Central Himalaya, India. *BOREAS*, 49, 594–614.
17. **Kumar, V***, Shukla, T., Mehta, M., Kumar, A., Mishra, A. (2020). Chronology and climate sensitivity of the post-LGM glaciation in the Dunagiri valley, Dhauliganga basin, Central Himalaya, India:Reply to comments. *BOREAS*, 50(1), 324–329.
18. Shukla, A, Garg, S, Mehta, M, **Kumar, V.**, Shukla, U.K. (2020a). Temporal inventory of glaciers in the Suru sub-basin, western Himalaya: impacts of the regional climate variability. *Earth System Science Data*, 12, 1245–1265.
19. Shukla, A, Garg, S, **Kumar, V.**, Mehta, M, Shukla, U.K. (2020b). Sensitivity of Glaciers in Part of the Suru Basin, Western Himalaya to Ongoing Climatic Perturbations. *Himalayan Weather and Climate and their Impact on the Environment*. Springer International Publishing, New York, NY, USA, pp. 351–377.
20. Singh, A.K, Kumar, D, **Kumar, V.**, Singh, D.S. (2020). Study of temporal response (1976–2019) and associated mass movement event (during 2017) Meru glacier, Bhagirathi valley, Garhwal Himalaya, India. *Quaternary International*, 565, 12–21.
21. Shukla, T, **Kumar, V.**, Mehta, M. (2019). Response of the Himalayan glacial cycles to multiple equilibrium of climate system: a review. *Quaternary International*, 507, 4-14.
22. Garg, S, Shukla, A, Mehta, M, **Kumar, V.**, Shukla, U.K. (2019). On geomorphic manifestations and glaciation history of the Kangriz glacier, western Himalaya. *Himalayan Geology*, 40 (2), 115–127.
23. Garg, S, Shukla, A, Mehta, M, **Kumar, V.**, Samuel, S A, Bartarya, S.K., Shukla, U.K. (2018). Field evidences showing rapid frontal degeneration of the Kangriz glacier, western Himalayas, Jammu & Kashmir. *Journal of Mountain Science*, 15 (6), 1199–1208.
24. **Kumar, V***, Mehta, M., Mishra, A., Trivedi, A. (2017). Temporal fluctuations and frontal area change of Bangni and Dunagiri glaciers from 1962 to 2013, Dhauliganga Basin, central Himalaya, India. *Geomorphology*, 284, 88–98.
25. Trivedi, A., **Kumar, V.**, Mishra, A., Awasthi, R. (2017). Modern Palynological Census of Dunagiri Valley: distribution and its relationship with past vegetation and climate. *Paleontological Society of India*, 62, 83–89.

Presentations in National and International conferences/seminar/workshop:

1. Participated in the “**Workshop on Biodeterioration of Cultural Property**” organised by Department of Ancient Indian History and Archaeology, University of Lucknow, from February 27–28, 2014.
2. Poster presentation: “**Glacial landforms and palaeoglaciation reconstruction**” in Expert meet and National Conference on Climate change and Environmental

Sustainability: Records from Poles to Tropics organized by Department of Geology, University of Lucknow, September 9–10, 2014.

3. Oral Presentation: **“Glaciogeomorphic features in the Dunagiri and Bangni Bamak glaciers and their significance in palaeogeographic reconstruction”** in National Conference on Quaternary climate change: New approaches and emerging trends organized by Birbal Sahni Institute of Palaeobotany, Lucknow, December 15–16, 2014.
4. Poster presentation: in International **“30th Himalaya-Karakoram-Tibet workshop”** organized by Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand, October 06–08, 2015.
5. Oral Presentation: In National Conference on **“Climate change and Natural water Resources: Impact and Sustainable Development in Indian Perspective”** organized by Department of Geology, University of Lucknow, February 20–21, 2018.
6. Poster presentation: In National Conference on **“Earth System Science with special reference to Himalaya: Advancement and Challenge”** organized by Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand, May 16–18, 2018.
7. Poster Presentation: In National Conference on **“Earth System Science with special reference to Himalaya: Advancement and Challenge”** Poster on “Recent changes in the frontal portion of the Kangriz Glacier: a field-based approach organized by Wadia Institute of Himalayan Geology, Dehradun, Uttarakhand, May 16–18, 2018.
8. Oral Presentation: International workshop on **“Climate Change & Extreme Events in Himalayan Region”** organized by IIT, Mandi, H.P., April 18–20, 2019.
9. Poster presentation: EGU General Assembly Conference, 2020.
10. Poster presentation: ICGCE held in IIT Roorkee, March 14–16, 2023.
11. Poster presentation: EGU General Assembly Conference, 2024.

Technical reports prepared for National and State Government:

- Contributed to the Wadia Institute Annual Report 2024.
- Contributed to the Wadia Institute Annual Report 2023.
- Prepared a technical report (29-05-2023) of reconnaissance survey to assess feasibility of Ground Penetrating Radar survey in the Mandakini Valley, Shri Kedarnath Dham, Uttarakhand, submitted to Uttarakhand State Disaster Management Authority (USDMA).
- Prepared a technical report for “Kedarnath Avalanches” submitted to Wadia Institute and USDMA, October, 2022.
- Submitted detailed project report of “Vasudhara Tal and Purvi Kamet Glacier monitoring” to Uttarakhand Government (USDMA).
- Contributed to the Wadia Institute Annual Report 2022.
- A report on “Existing glacial lakes in Uttarakhand” submitted to National Disaster Response Forces (NDRF), Nagpur, Home Ministry.
- A preliminary report of Vasudhara Tal survey submitted to USDMA.
- Contributed to National Disaster Management Authority (NDMA) of India, Ministry of Home Affairs short technical report on Rishiganaga Disaster 2021.

- On time to time were involved answering “Parliamentary Questions” and short reports for Department of Science and Technology media cell.
- Contributed as an “**Expert Member in National Disaster Management Authority (NDMA) of India**”, Ministry of Home Affairs, detailed technical report on Rishiganaga Disaster 2021.
- Contributed as an “**Expert Member in detailed technical report on Geological assessment of the causes of Rishiganaga Disaster 2021**” submitted to THDC and NTPC.
- Contributed to the Wadia Institute Annual Report 2021.
- Contributed to the Wadia Institute Annual Report 2020.
- Contributed to the Wadia Institute Annual Report 2019.
- Contributed to the Wadia Institute Annual Report 2018.
- Contributed to the Wadia Institute Annual Report 2017.
- Contributed to the Wadia Institute Annual Report 2016.

Awards and Honours:

- Best Research Paper Award 2021, in the Wadia Institute of Himalayan Geology.
- Appreciation letter from the National Disaster Management Authority (NDMA) of India for contribution as an “*Expert Member for the National Report on Rishiganaga Disaster-2021*”.
- Nature Climate Change considered one of my articles in two categories (i-observation and climate change effect and ii- Paleoclimate) for excellent work, an occasion of its 10 years of obfuscation in the field of science in various disciplines (Mehta & Kumar et al., 2021, REEC).
- Journal front Cover article for Current Science, 2021 (Mehta & Kumar et al., 2021).

Research Project Completed:

Title and Responsibility: One year monitoring of the Vasudhara Tal, Purvi Kamet Glacier, Uttarakhand from 2021 to 2023, Co-Principal Investigator.

Funding Agency & Cost: Uttarakhand State Disaster Management Authority, INR 2100000/-

Invited talk/ Expert lecture/ Resource person/ Key note addresses:

1. Invited Talk “**Climate change natural or Anthropogenic**” (24-07-2020): In the webinar on Reconstructing the Geography to Meet the New Challenges” conducted by SPC, Government College, Ajmer, Rajasthan.
2. Invited Talk on “**Online short-term course on Disaster Management: An Integrated Approach**” (26-10-2020), Department of Geography, University of Mumbai.
3. Invited Talk on “**Science awareness programme and science education to school children**” at GIC School, Jonpur, Tehri, Garhwal, Uttarakhand, November, 2020.
4. Invited Talk on “**Possible factors responsible for Rishiganaga Disaster, 2021**” to the **President and Committee Members, World Bank.**

5. A guest faculty lecture on **“Glacial Lake Outburst Floods”** (27-29 December, 2021) to National Disaster Response Force Academy, Nagpur, **Ministry of Home Affairs**.
6. Delivered a Session Talk (05-01-2022) in One week training course on **“Climate Change Adaptation through Natural Resource Management for All-India-In-Service Officers”** organised by Wildlife Institute of India.
7. Invited Talk on **“Himalayan Geo-environment and Hazards (Landslide, Cloud Burst, Flash Floods, Avalanches, GLOF)”** (22-24 June, 2022) in three days professional development programme on “Addressing Disaster and Climate Change Issue for Safer Sustainable Hill Area Development” organised by Forest Research Institution, Dehradun.
8. Invited Talk **“Application of remote sensing and other techniques for recharge and sustainability of drinking water resources”** organized by Himalayan Institute Hospital Trust, 12-01-2022.
9. Invited Talk on **“Himalayan Glaciers”** conducted by Isabella Thoburn College, Lucknow on 29 August, 2023.
10. Invited Talk on **“Earth Sciences Exploration: Unlocking Career Prospects”** (10 June, 2024) organised by School of Basic and Applied Sciences Department of Geology, MGM University, Chhatrapati Sambhajinagar.

Administrative Responsibilities undertaken in University of Lucknow:

- Member of Faculty, Board of Science, University of Lucknow.
- Member of the Board of Studies, D/o Geology, University of Lucknow.
- Member of the Department Research Committee (DRC), D/o Geology, University of Lucknow.
- Coordinator, DQAC, D/o Geology, University of Lucknow.

Administrative Responsibilities performed in Wadia Institute of Himalayan Geology:

- Member of the selection committee “Junior Research Fellow”, 2015.
- **Organiser** for sports activities on 15 August, 2015.
- Member of the publication and documentation committee, 2016.
- Member of the **“Hindi Pakhwada”** committee, 2016.
- Member of the “Curtain Raiser Event” India International Science Festival (IISF), 2016.
- Member of the “Badminton Tournament” committee, 2016.
- Member of the team participated “IISF”, 2016 in National Physical Laboratory, Delhi, 2016.
- Member of the team participated “104th Indian Science Congress”, 2016 in Tirupati.
- **Organiser** for “Sports and Cultural Activities” on 15 August, 2017.
- Member of the Registration and Transport committee for National Geo-Research Scholars Meet, 2017.
- Member of the Science Day committee, 2016.
- **Co-OIC of the Water Chemistry Lab, 2018.**
- **In-Charge of Wadia Institute Staff Canteen, 2018.**
- Committee member for India Earth Science Olympiad, entrance exam 2018.

- Member of the Science Day committee, 2018.
- **In charge Independence Day Plantation 2018.**
- Member of the Registration and Transport committee for 2nd National Geo-Research Scholars Meet, 2018.
- Committee member for organising “National Conference on Earth System Science with special reference to Himalaya” 2018.
- **In charge Independence Day Plantation 2019.**
- **Co-Convener 3rd National Geo-Research Scholars Meet, 2019.**
- Committee member for India Earth Science Olympiad, entrance exam 2019.
- Member of the Science Day committee, 2019.
- **Co-OIC of the Remote Sensing Laboratory 2019.**
- Member of the team participated “IISF”, 2019 in Kolkata.
- **Organiser** for sports activities on 15 August, 2019.
- Member of the “**Hindi Pakhwada**” committee, 2020.
- **Organiser** for Badminton Tournament 2020.
- Member of the “**Gym Committee**”, 2021.
- Member of the “**Hindi Pakhwada**” committee, 2021 and **Organised** “Hindi Kavi Sammelan”.
- **In charge** exhibition stall for Rajbhavan Basant Utsav, 2021.
- **Organiser** for “Sports and Cultural Activities” on 15 August, 2022.
- Member of the “**Hindi Pakhwada**” committee, 2022 and **Organised** “Hindi Kavi Sammelan”.
- Member of the team participated “IISF”, 2022, MANIT, Bhopa.
- Exhibition stall team member for Rajbhavan Basant Utsav, 2023.
- Member of the “**Hindi Pakhwada**” committee, 2023 and **Organised** “Hindi Kavi Sammelan”.

Reviewer of the journals:

- Geocarto International
- Global and Planetary Change
- Quaternary International
- Journal of the Geological Society of India
- Himalayan Geology
- Palaeontological Society of India
- Remote Sensing Environment and Society
- Quaternary Science Advances
- Geological Journal

Membership of Scientific and Professional Societies:

- Himalayan Geology
- Indian Science Congress

Vinit Kumar