CURRICULUM VITAE

Dr. VIPIN KUMAR

OFFICIAL ADDRESS:
Asst. Professor & HEAD I/C, DEPARTMENT OF GEOLOGY,
Doon University, Dehradun, Uttarakhand, 248001, India
+91 7500471164 ; v.chauhan777@gmail.com ; vipin@doonuniversity.ac.in

EXPERIENCE

- Asst. Professor & Head I/C (2022-present): Doon University, Dehradun, India
- Project Scientist-II (2021-2022): HNB Garhwal University, Srinagar, India
- Post Doc. (FNRS) Fellow (2020-2021): University of Liege, Liege, Belgium
- Research Fellow (NET-JRF) (2014-2019): Wadia Institute of Himalayan Geology, Dehradun, India
- Engineering Geologist (2012-2013): Cengrs Geotechnica Pvt. Ltd. Noida, India

EDUCATION

- Ph.D. Geology (2015-2019): Wadia Institute of Himalayan Geology, India/HNB Garhwal University, India
- M.Sc. Geology (2010-2012): University of Delhi, Delhi, India
- B. Sc. Geology (2007-2010): Aligarh Muslim University, Aligarh, India

AWARDS/FELLOWSHIPS/GRANT

- PI, Project (2024-2028): UK Research and Innovation, **United Kingdom**/Ministry of Earth Sciences, **India**
- Co-Coordinator (Science Promotion), Dehradun, UCOST, Govt. of Uttarakhand, **India**
- Bursary Grant (2024): International Geographical Congress, **Ireland**
- Co-PI, Project (2022-2023): Department of Science & Technology, Govt. of India, **India**
- Young Geomorphologists Grant (2022): International Association of Geomorphologists, **Portugal.**
- International Travel Grant (2022): Science & Engineering Research Board (SERB), **India**
- Post Doc. Fellowship (2020): National Scientific Research Fund (FNRS), **Belgium**
- Best Paper (2019): International Workshop on Climate Change & Extreme Events, IIT Mandi, **India**
- All India Rank-19; NET-JRF (2014): Council of Scientific & Industrial Research (CSIR), **India**
- Institute Research Fellowship (2014): Wadia Institute of Himalayan Geology, DST, **India**

TRAINING

- UAV-Motorcraft License Training (2025): Directorate General of Civil Aviation, Government of India
- Monitoring and modeling of large landslides (2018): Chengdu University of Technology, China
- Introduction to Landslide Site Mapping (2017): Indian Institute of Technology, Kanpur, India
- Landslide Hazards and Related Phenomena (2016): National Institute of Technology, Hamirpur, India
- Rock-Engineering for the Hilly Regions (2015): Indian Institute of Technology, Roorkee, India

INTEREST:

Engineering Geology/ Georisk/Disaster Risk Reduction

SKILLS:

UAV Mapping & data Processing, Slope & Hydro-dynamic Modeling, Geophysical (ERT/GPR) Mapping & data Processing

SCI/SCIE Journal Articles

1. Chauhan, N., **Kumar, V*.**, Sahay, A., Srivastav, A. K., Ranjan, R., Sundriyal, Y., Sinha, R., Sinclair, H., Dangwal, G., & Chauhan, N. **2026.** Evolving hazards, infrastructural development and population regime, Uttarakhand, NW Himalaya. Regional Environmental Change. https://doi.org/10.1007/s10113-026-02636-5 ***Corresponding author.**
2. Jamir, I., Suresh, N.D., Lakshmi, K.J, Ray, L., **Kumar, V**.. **2026.** Characterizing rock-mass hillslopes in Ladakh Himalaya; implications for sustainable development. Environ Dev Sustain. https://doi.org/10.1007/s10668-026-07926-w.
3. **Kumar, V.,** Chauhan, N., Srivastav, A.K., Sundriyal, Y., Sinha, R., Negi, R., Gupta, V., Verma, A., Puniya, M. and Devrani, R., **2026.** Dharali debris flow on 5 August 2025, Uttarakhand: event reconstruction and geomorphic implications. Current Science. .https://doi.org/10.18520/cs/v130/i3/229-238
4. Sundriyal, Y, Kaushik, S, **Kumar, V*,** Dimri, A.P., Chauhan, N, Kumar, S, Rana, N. **2025**. Uttarakhand: A Hotspot For Extreme Events? JGSI, 101 (7): 1120–1126. doi.org/10.17491/jgsi/2025/174210.***Corresponding author.** (Q2), IF. 1.4
5. Sonkar, G., Rana, N., Kumar, H., Sharma, S., **Kumar, V.** and Sundriyal, Y., **2025**. Assessing flash flood hazard and buildings exposure in the Himalayan upland region: a case study of Gangotri Town, India. Zeitschrift für Geomorphologie.10.1127/zfg/2025/0800. (Q2), IF. 1.8
6. Chauhan, N, **Kumar, V***, Sundriyal, Y., Kaushik, S., Subramanian, S.S., Melo, R., Rana, N. **2024.** Debris Flow in Indian Himalaya: A Threat to Emerging Infrastructure. Bulletin of Engineering Geology and the Environment, 83, 428. *** Corresponding author.** (Q1), IF. 4.2
7. Negi, R., Sati, S.P., Sharma, V., Samanta, M., **Kumar, V.**, Puniya, M.K., Rana, S.S. and Kanungo, D.P., **2024.** Evaluating instability & failure pattern of landslides, Giri valley, Northwest Himalaya, India. Bulletin of Engineering Geology and the Environment, 83(7), 271.(Q1), IF. 4.2
8. Jamir, I., **Kumar, V.,** Ojha, A.K., Gupta, V., Martha, T.R. and Griffiths, D.V., **2024.** Evaluating failure regime of an active landslide using instability and rockfall simulation, NW Himalaya. Environmental Earth Sciences, 83(8), 256. (Q2), IF. 3.0
9. Sundriyal, Y., Kumar, S., Chauhan, N., Kaushik, S., **Kumar, V.**, Rana, N. and Wasson, R., **2024.** An integrated approach of machine learning and remote sensing for evaluating landslide hazards and risk hotspots, NW Himalaya. Remote Sensing Applications: Society and Environment, p.101140. Q1. IF. 4.7.
10. Sundriyal, Y., **Kumar, V***., Chauhan, N., Kaushik, S., Ranjan, R. and Punia, M.K., **2023**. Brief communication: The Northwest Himalaya towns slipping towards potential disaster. Natural Hazards and Earth System Sciences, 23(4), 1425-1431. (Q1), *** Corresponding author.** IF. 4.3
11. **Kumar, V.,** Sundriyal, YP., Chauhan N., Puniya, M. Kaushik, S., Kumar, S., Bagri, D.S., Rana, N., **2023.** Ascertaining the potential causes of a hillslope failure associated with human settlement; a case study from Alaknanda valley, Uttarakhand, NW Himalaya, India. Journal of Geological Society of India, 99, 1141-1148. (Q2), IF. 1.3
12. Sundriyal, Y., **Kumar, V*.**, Khan, F., Puniya, M.K., Kaushik, S., Chauhan, N., Bagri, D.S. and Rana, N., **2023.** Impact of potential flood on riverbanks in extreme hydro-climatic events, NW Himalaya. Bulletin of Engineering Geology and the Environment,

    82(196), 1-18. *** Corresponding author.** (Q1), IF. 4.2
13. **Kumar V.,** Cauchie L., Mreyen, A.S., Micu, M., Havenith, H.B. **2021.** Evaluating landslide response in seismic and rainfall regime: A case study from the SE Carpathians, Romania. Nat. Hazards Earth Syst. Sci., 21 (2), 3767-3788. (Q1), I.F. 4.337
14. **Kumar V.**, Jamir I., Gupta V., Bhasin R., **2021**. Inferring Potential landslide damming using slope stability, geomorphic constraints and run-out analysis; case study from the NW Himalaya. Earth Surface Dynamics, 9, 351-377. (Q1), I.F. 4.813
15. Luirei K., Bhakuni SS, Longkumer L., **Kumar V.,** Jamir I., **2020.** Geomorphic assessment of the factors contributing to the evolution of landforms, Ukhaldhunga, Kosi River valley, Kumaun Himalaya. Geoscience Journal. DOI: 10.1007/s12303-020-0034-7. (Q2), I.F. 2.237
16. Jamir I., Gupta V., Thong GT. and **Kumar V., 2019.** Litho-tectonic and precipitation implications on landslides, Yamuna valley, NW Himalaya. Physical Geography. (Q2), I.F. 2.086
17. **Kumar V.**, Gupta V., Jamir I. and Chattoraj SL., **2019.** Evaluation of potential landslide damming: Case study of Urni landslide, Kinnaur, Satluj valley, India. Geoscience Frontier, 10 (2), 753-767. (Q1), I.F. 6.853
18. **Kumar V.,** Gupta V., and Sundriyal Y.P., **2019.** Spatial interrelationship of landslides, litho-tectonic, and precipitation regime, Satluj valley, Northwest Himalaya. Geological Journal, 54, 537-551. (Q1), I.F. 2.489
19. **Kumar V**., Gupta V., and Jamir I., **2018.** Hazard Evaluation of Progressive Pawari Landslide Zone, Kinnaur, Satluj Valley, Higher Himalaya, India.Natural Hazards, 93 (2), 1029-1047. (Q1), I.F. 3.656
20. Shukla, T., Mehta, M., **Kumar, V**., Nainwal, H.C., and Dobhal, D.P., **2017.** Application of the Schmidt-hammer with relative-age dating of moraine boulders - a case study from Mandakini River valley, central Himalaya, India. Himalayan Geology, 38 (2), 184-192. (Q2), I.F. 1.293
21. Jamir, I., Gupta, V., **Kumar, V**., and Thong, G. T., **2017.** Evaluation of potential surface instability using finite element method in Kharsali Village, Yamuna Valley, Northwest Himalaya. Journal of Mountain Science, 14(8), 1666-1676. (Q2), I.F. 2.071
22. Gupta V., Jamir I., **Kumar V.,** and Devi M., **2017.** Geomechanical characterization of slopes for assessing rockfall hazards between Janki Chatti and Yamunotri Temple, Yamuna Valley, Higher Himalaya, India. Himalayan Geology, 38 (2), 156-170. (Q2), I.F. 1.293
23. Gupta V., Bhasin R.K., Kaynia A.M, **Kumar V.**, Saini A.S., Tandon R.S. and Pabst T., **2016.** Finite element analysis of failed slope by shear strength reduction technique: a case study for Surabhi Resort Landslide, Mussoorie Township, Garhwal Himalaya. Geomatics, Natural Hazards and Risk, 7 (5), 1677-1690. (Q1), I.F. 3.528
24. Gupta V., Nautiyal H., **Kumar V.**, Jamir I., and Tandon R.S., **2016.** Landslide- hazards around Uttarkashi Township, Garhwal Himalaya, after the tragic flash flood in June 2013. Natural Hazards, 80, 1689-1707. (Q1), I.F. 3.656

Book Chapters

25. Jamir, I., **Kumar, V*.,** Melo, R., Lee, W.Y. and Kariminejad, N., **2026**. Quantifying landslide risk: a critical reassessment of slope stability and human settlement impacts. In Quantitative Geomorphology in the Artificial intelligence Era (pp. 219-232). Elsevier. ***Corresponding author.**
26. Kariminejad, N., Desir, G., Hosseinalizadeh, M., Domazetović, F., **Kumar, V.** and Quesada-Román, A., **2026.** A multidisciplinary approach to understanding and mitigating erosional landforms. In Quantitative Geomorphology in the Artificial intelligence Era (pp. 283-300). Elsevier.
27. Kariminejad, N., Biglarfadafan, M., **Kumar, V.**, Jamir, I., Shafaie, V. and Pourghasemi, H.R., **2024.** Review of multi-hazards research with the basis of soil erosion. In Advanced Tools for Studying Soil Erosion Processes (pp. 295-306). Elsevier.
28. Upreti, P., Sahay, A. and **Kumar, V., 2024.** Large Dams and Developmental Dilemma: Watershed Management and Sustainable Livelihood Practices in Rim Areas of Tehri Dam, Uttarakhand, India. In Recent Advancements in Sustainable Agricultural Practices: Harnessing Technology for Water Resources, Irrigation and Environmental Management (pp. 247-265). Singapore: Springer Nature Singapore.
29. Jamir, I., Diwate, P., **Kumar, V*.**, & Chauhan, G. S. **2020.** Inferring Relationship of Landslides, Tectonics, and Climate: Tons Valley, NW Himalaya. In S. Singh, S. Kanga, & V. Mishra (Eds.), Spatial Information Science for Natural Resource Management (pp. 169-179). IGI Global Scientific Publishing.***Corresponding author.** https://doi.org/10.4018/978-1-7998-5027-4.ch009

Preprints (Unpublished)

30. Agarwal, S., **Kumar, V***., Kumar, S., Sundriyal, Y., Bagri, D.S., Chauhan, N., Kaushik, S., Khan, F. and Rana, N., **2022**. Identifying potential hotspots of land use/land cover change in the last 3 decades, Uttarakhand, NW Himalaya ***Corresponding author.** https://eartharxiv.org/repository/view/3439/

RESEARCH PROJECTS

1. **Title:** Dynamic risk for cascading Himalayan Hazards (United Kingdom-India Collaborative Project). **2024-2028**, Ministry of Earth Sciences, India

2. **Title:** Assessment of Impact of Climate Change on the Geodiversity in Uttarakhand Himalaya for five most Disaster-prone districts of Uttarakhand including vulnerability and Risk Assessment: Implication for Sustainable Development and Policy Making. **2020-2023**, DST (Govt. of India).

CONVENER/COORDINATOR

1. **Role:** Convener
Workshop: National Seminar on Uttarakhand Himalaya: Challenges & Solutions in the Paradigm of Changing Climate
Day and venue: 9 Feb. **2023,** Doon University, Dehradun
Participants: Students from various public and private schools of Dehradun
Funding Agency: HDFC Bank Pvt. Ltd., PNB Bank Ltd., and Doon University, Dehradun

2. **Role:** Convener
Workshop: Brainstorming session on the NW & Central Himalayan Natural Disasters
Day and venue: 26th March **2023**, Doon University, Dehradun
Participants: Researchers and Students from various universities of Uttarakhand
Funding Agency: Uttarakhand State Council for Science and Technology, Dehradun, Uttarakhand, India

3. **Role:** Coordinator
Workshop: Advanced Drone Mapping & 3D model generation
Day and venue: 28-29th August **2023**, Doon University, Dehradun
Participants: Students from Geology, Geography, Computer Science, and Design Departments of Doon University
Funding Agency: Doon University, Dehradun, India

4. **Role:** Coordinator
Workshop: National Seminar on "Traditional Practices of Disaster Management in Uttarakhand Himalaya
Day and venue: 9 Feb. **2024**, Doon University, Dehradun
Participants: Students from various public and private schools of Dehradun
Funding Agency: Doon University, Dehradun

5. **Role:** Convener
Workshop: National Seminar on "Natural Hazards in the Himalayas: Prediction, Mitigation, and Support"
Day and venue: 20-21 March **2024,** Doon University, Dehradun
Participants: Academicians/Industrialists/Students from various regions of India.
Funding Agency: Doon University, Dehradun and Pan India Consultants, India.

6. **Role:** Coordinator
Meeting: 9th Programme Advisory Committee (PAC) meeting for the Group Monitoring Workshop under CRG-Mathematical Sciences
Day and venue: 26-27 Sep. 2024**,** Doon University, Dehradun
Participants: Academicians from various institutions of India.
Funding Agency: ANRF (Govt. of India)

7. **Role:** Convener
Workshop: National Seminar on "Himalaya: Landscape, People, and Livelihood"
Day and venue: 10 Feb. **2025,** Doon University, Dehradun
Participants: Academicians/Industrialists/Students from various regions of India.
Funding Agency: Doon University, Dehradun

8. **Role:** Convener
Workshop: International Stakeholders meet on "Dynamic Risk for Cascading Himalayan Hazards"
Day and venue: 22 March. **2025,** Doon University, Dehradun
Participants: Academicians/Researchers from India & United Kingdom.
Funding Agency: MoES, Govt. of India

9. **Role:** Coordinator
Workshop: 5th Indian Institute of Geomorphologists (IGI)-Young Geomorphologists Forum (YGF)'s Intensive Training Programme on Advanced Mapping Techniques in Geomorphology & Land Use/Land Cover Planning
Day and venue: 02-06 June **2025,** Doon University, Dehradun
Participants: PhD/Post Doc Students from various regions of India.
Funding Agency: Pan India Consultants, Vision IAS, Govt of Uttarakhand, Doon University, Dehradun

10. **Role:** Convener
Workshop: National Seminar on "Role of Geoscience in Sustainable Development and Disaster Risk Reduction"
Day and venue: 09-10 Feb. **2026,** Doon University, Dehradun
Participants: Academicians/Industrialists/Students from various regions of India.
Funding Agency: Doon University, Dehradun