

DR ANIL KUMAR, WIHG, DEHRADUN, INDIA



<https://scholar.google.co.in/citations?user=v595UnMAAAAJ&hl=en>

RESEARCH GROUP: SEDIMENTOLOGY GROUP

FIELD OF SPECIALIZATION:

QUATERNARY GEOLOGY, SEDIMENTOLOGY, LUMINESCENCE DATING

EDUCATION:

2018 Ph.D Geology, Wadia Institute of Himalayan Geology, Dehradun

2009 M.Sc. Applied Geology, Kurukshetra University, Kurukshetra, Haryana

2006 B.Sc. (Physics, Chemistry and Mathematic), Government P.G. College Karnal, Haryana

PROFESSIONAL EXPERIENCE:

1. **Scientist-C** at Wadia Institute of Himalayan Geology, Dehradun from Dec-2017 to till date.
2. **Scientist-B** at Wadia Institute of Himalayan Geology, Dehradun from Dec-2014 to Dec-2017.
3. **Junior Research Fellow and Senior Research Fellow** at Wadia Institute of Himalayan Geology, Dehradun from Jan 2011- Jan 2013 and Jan -2013 – Dec -2014 respectively.

VISITING POSITIONS: NONE

TEACHING EXPERIENCE:

Delivered lectures in in-house lecture series.

SERVICES:

a. Supervision/Guidance to Ph.D. Students: One full time Ph.D student

b. Training: 05 M.Sc. / M.Tech Dissertation and 15 summer interns

c. Teaching: None

d. Membership: AGU (annual), Himalayan Geology (Life-time member)

e. Editorial Board: None

f. International/National Seminars/Workshop:

1. 1st National Geo-Scholar Meet-2016

g. External Research Fund received & Project Handled: None

h. Member of important Committees:

1. Verification of Medicine Wrappers, WIHG

AWARDS/FELLOWSHIPS/HONORS/MEMORIAL LECTURES:

a. Awards/Medals/Prizes:

1. University Gold medalist-2009 for getting 1st Rank in M.Sc. (Applied Geology), Kurukshetra University.
2. DST International Travel Scheme- Aug, 2013.

b. Fellowships:

1. Wadia National Fellowship from 2011 to 2014

c. Memorial Lectures: None

d. Recognition/Honors:

1. Participated as shipboard scientist in International Ocean Discovery Program (IODP) Expedition 355 during March-May, 2015.

COUNTRIES VISITED: France, Sri Lanka

NATIONAL/INTERNATIONAL (outside WIHG) COLLABORATION:

1. Dr Rajeev Saraswat, NIO, Goa
2. Dr GP Gurumurthy, BSIP, Lucknow
3. Prof Peter D Clift, LSU, USA

Inside WIHG Collaborator:

1. Dr Pradeep Srivastava
2. Dr Som Dutt
3. Dr Manish Mehta
4. Dr Vinit Kumar
5. Sh Saurabh Singhal

PATENT-

SCHOLARSHIPS AWARDED, GATE

PH.D. ADVISOR: DR PRADEEP SRIVASTAVA, WADIA INSTITUTE OF HIMALAYAN GEOLOGY, DEHRADUN

LIST OF PUBLICATIONS

(a) SCI Papers

1. **Kumar, A.**, Srivastava, P., Devrani, R., 2020. Using clast geometries to establish paleoriver discharges: Testing records for aggradation and incision from the upper Indus River, Ladakh Himalaya. *Geomorphology* (accepted).
<https://doi.org/10.1016/j.geomorph.2020.107202>
2. 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* (accepted). <https://doi.org/10.1111/bor.12440>
3. Shukla, T., Mehta, M., Dobhal, D.P., Bohra, A., Pratap, B., **Kumar, A.**, 2020. Late Holocene climatic variations in the Mandakini River Basin, Central Himalaya, India – evidence from Chorabari glacial lake sediments. *The Holocene* (accepted).
<https://doi.org/10.1177/0959683620908654>
4. Sharma, C.P., Rawat, S.L., Srivastava, P., Meena, N.K., Agnihotri, R., **Kumar, A.**, Chahal, P., Gahlaud, S.K., Shukla, U. 2019. High-resolution climatic (monsoonal) variability reconstructed from a continuous ~2700-year sediment record from Northwest Himalaya (Ladakh). *The Holocene*. <https://doi.org/10.1177/0959683619887426>
5. Srivastava, P., **Kumar, A.**, Singh, R., Deepak, O., Kumar, A.M., Ray, Y., Jayangondaperumal, R., Phartiyal, B., Chahal, P., Sharma, P., Ghosh, R., Kumar, N., Agnihotri, R. 2019. Rapid lake level fall in Pangong Tso (lake) in Ladakh, NW Himalaya: a response of late Holocene aridity. *Current Science* (accepted).
6. **Kumar, A.**, Dutt, S., Saraswat, R., Gupta, A.K., Clift, P.D., Pandey, D.K., Yu, Z., Kulhanek, D.K. 2019. A Late Pleistocene Allocyclic Mechanism of Sedimentation in the Indus Fan, Arabian Sea, IODP Site U1457. *Geological Magazine*. <https://doi.org/10.1017/S0016756819000396>
7. Poonam, **Kumar, A.**, Sharma, P.C., Sundriyal, Y.P., Srivastava, P. 2019. Catastrophic outburst floods in the upper Zaskar catchment, NW Himalaya. *Journal of Paleontological Society of India* (accepted).

8. **Kumar, A.**, Ray, Y., Ghosh, R., Bandyopadhyay, S., Singh, V., Srivastava, P. 2020. Late Quaternary sedimentation history of the Himalaya and its foreland. Episodes, v. 43 (1), pp. 498-510. <https://doi.org/10.18814/epiugs/2020/020032>
9. Kar, A., **Kumar, A.** 2020. Evolution of arid landscape in India and likely impact of future climate change. Episodes, v. 43 (1), pp. 511-523. <https://doi.org/10.18814/epiugs/2020/020033>
10. Chahal, P., **Kumar, A.**, Sharma, P.C., Singhal, S., Sundriyal, Y.P., Srivastava, P. 2019. Late Pleistocene history of aggradation and incision, provenance and channel connectivity of the Zaskar River, NW Himalaya. Global Planetary Changes, v. 178, pp. 110-128. <https://doi.org/10.1016/j.gloplacha.2019.04.015>
11. Dailey, S., Clift, P.D., Kulhanek, D.K., Blusztajn, J., Routledge, C., Calvès, G., O'Sullivan, P., Jonell, T.N., Pandey, D.K., Ando, S., Coletti, G., Zhou, P., Li, Y., Neubeck, N., Bendle, J., Bratenkov, S., Griffith, G., Gurumurthy, G.P., Hahn, A., Iwai, M., Khim, B-K., **Kumar, A.**, Kumar, A.G., Liddy, H., Lu, H., Lyle, M., Mishra, R., Radhakrishna, T., Saraswat, R., Saxena, R., Scardia, G., Sharma, G., Singh, A.D., Steinke, S., Suzuki, K., Tauxe, L., Tiwari, M., Xu, Z., Yu, Z. 2019. Large-scale Mass Wasting on the Miocene Continental Margin of Western India. Geological Society of America, Bulletin, v. 132, pp. 85-112. <https://doi.org/10.1130/B35158.1>
12. Yu, Z., Colin, C., Wan, S., Saraswat, R., Song, L., Xu, Z., Clift, P., Lu, H., Lyle, M., Kulhanek, D., Hahn, A., Tiwari, M., Mishra, R., Miska, S., **Kumar, A.** 2019. Sea level-controlled sediment transport to the eastern Arabian Sea over the past 600 kyr: Clay minerals and Sr-Nd isotopic evidence from IODP site U1457. Quaternary Science Reviews, v. 205, pp.22-34.
13. Khim, B-K., Lee, J., Ha, S., Park, J., Pandey, D.K., Clift, P.D., Kulhanek, D.K., Steinke, S., Griffith, E.M., Suzuki, K., Xu, Z., and **IODP Expedition 355 Scientists**. Variations in $\delta^{13}C$ values of sedimentary organic matter since late Miocene time in the Indus Fan (IODP Site 1457) of the eastern Arabian Sea. Geological Magazine. <https://doi.org/10.1017/S0016756818000870>
14. **Kumar, A.**, Srivastava, P., Meena, N.K. 2017. Late Pleistocene aeolian activity in the cold desert of Ladakh: a record from sand ramps. Quaternary International, v. 443, pp. 13-28.
15. **Kumar, A.**, Srivastava, P. 2017. Late Pleistocene-Holocene record of aggradation and incision of Indus River, Ladakh, NW Himalaya: Role of paleoclimate and tectonics. Quaternary Research, v. 87, pp. 363-385.
16. Srivastava, P., **Kumar, A.**, Chaudhary, S., Meena, N., Sundriyal, Y.P., Rawat, S., Rana, N., Perumal, R.J., Bisht, P., Sharma, D. and Agnihotri, R. 2017. Paleofloods records in Himalaya. Geomorphology, v. 284, pp.17-30.

17. Jayangondaperumal, R., Kumahara, Y., Thakur, V.C., **Kumar, A.**, Srivastava, P., Dubey, S., Joevivek, V., Dubey, A.K. 2017. Great earthquake surface ruptures along backthrust of the Janauri anticline, NW Himalaya. Journal of Asian Earth Sciences, v. 133, pp.89-101.
18. Tripathi, S., Tiwari, M., Lee, J., Khim, B-K, Pandey, D.K., Clift, P.D., Kulhanek, D., Ando, S., Bendle, J.A.P., Bratenkov, S., Griffith, E.M., Grumurthy, G.P., Hahn, A., Iwai, M., **Kumar, A.**, Kumar, A.G., Liddy, H.M., Lu, H., Lyle, M.W., Mishra, R., Radhakrishna, T., Routledge, C.M., Saraswat, R., Saxena, R., Scardia, G., Sharma, G.K., Singh, A.D., Steinke, S., Suzuki, K., Tauxe, L., Xu, Z., Yu, Z. 2017. First evidence of OMZ evolution versus monsoon in Eastern Arabian Sea since late Miocene. Scientific Report, v. 7, 43056.
19. Basak, B., Srivastava, P., Dasgupta, S., **Kumar, A.**, Rajaguru, N. 2014. Earliest Dates and implications of Microlithic industries of Late Pleistocene from Mahadebbera and Kana, Purulia District, West Bengal. Current Science, v. 107, pp. 1167-1171.
20. Srivastava, P., **Kumar, A.**, Mishra, A., Meena, N.K., Tripathi, J.K., Sundriyal, Y.P., Agnihotri, R., Gupta, A.K. 2013. Early Holocene monsoonal fluctuations in the Garhwal higher Himalaya as inferred from multi-proxy data from the Malari paleolake. Quaternary Research, v. 80, pp. 447-458.

(b) Non-SCI Articles

None

(c) Chapter in Books

1. Anil Kumar and Pradeep Srivastava, 2018. Landscape of the Indus River. The Indian Rivers (pp. 47-59). Ed. Dhruv Sen Singh. Springer, Singapore.

(d) Books-authored/Edited volume: None

(e) Abstract volume: None

(f) Reports/Other Documents:

1. Pandey, D., Clift, P.D., Kulhanek, D., Ando, S., Bendle, J.A.P., Bratenkov, S., Griffith, E.M., Grumurthy, G.P., Hahn, A., Iwai, M., Khim, B.K., **Kumar, A.**, Kumar, A.G., Liddy, H.M., Lu, H., Lyle, M.W., Mishra, R., Radhakrishna, T., Routledge, C.M., Saraswat, R., Saxena, R., Scardia, G., Sharma, G.K., Singh, A.D., Steinke, S., Suzuki, K., Tauxe, L., Tiwari, M., Xu, Z., and Yu, Z. 2016. Expedition 355 Arabian Sea Monsoon. Proceedings of the International Ocean

Discovery Program, 355: College Station, TX (International Ocean Discovery Program).

<http://dx.doi.org/10.14379/iodp.proc.355.101.2016>

2. Pandey, D.K., Clift, P.D., Kulhanek, D.K., Andò, S., Bendle, J.A.P., Bratenkov, S., Griffith, E.M., Gurumurthy, G.P., Hahn, A., Iwai, M., Khim, B.K., **Kumar, A.**, Kumar, A.G., Liddy, H.M., Lu, H., Lyle, M.W., Mishra, R., Radhakrishna, T., Routledge, C.M., Saraswat, R., Saxena, R., Scardia, G., Sharma, G.K., Singh, A.D., Steinke, S., Suzuki, K., Tauxe, L., Tiwari, M., Xu, Z., Yu, Z., 2015. Expedition 355 Preliminary Report: Arabian Sea Monsoon. International Ocean Discovery Program.

(g) Articles in Proceeding Volumes

1. **Anil Kumar**, Sumit Sagwal, Som Dutt, Rajeev Saraswat, Peter D. Clift, Zhaojie Yu, 2018. Source-sink relationship between Indus river system and Indus Fan: a multiple proxy record from Indus fan sediment Site U1457. A national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 51.
2. **Anil Kumar**, Pradeep Srivastava, 2018. Hydrologically controlled aggradation and incision of the upper Indus valley, Ladakh Himalaya, during the late Pleistocene. A national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 52.
3. Vinit Kumar, Aparna Shukla, Manish Mehta, **Anil Kumar**, 2018. Style and timing of Quaternary glaciation in a semi-arid region: a case study from the Suru River basin, western Himalaya. A national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 54.
4. Poonam, **Anil Kumar**, Pankaj Sharma, Saurabh Singhal, Y.P. Sundriyal, Pradeep Srivastava, 2018. Landscape evolution and sediment provenance of the Zaskar Valley, Ladakh Himalaya. A national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 62.
5. Pankaj Sharma, Poonam, **Anil Kumar**, Rupa Ghosh, Narendra Meena, Rajesh Agnihotri, Y.P. Sundriyal, Pradeep Srivastava, 2018. Record of ~3000 yrs of climate of the Western Himalaya: A multi proxy approach. A national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 68.
6. Pradeep Srivastava, Oshin Deepak, Arjit Kumar, **Anil Kumar**, Ch Pankaj Sharma, Poonam Chahal, Rupa Ghosh, R. Bali, R. Singh, Binita Phartiyal, R. Jayangondaperumal, 2018. Evolution of Pangong Tso Delta: a 2 ka trajectory of climate responses in high altitude lake, Ladakh. A

- national conference on Earth System Science held at Wadia Institute of Himalayan Geology, Dehradun from 16-18 May, 2018, pp – 76.
7. **Anil Kumar**, Pradeep Srivastava, 2017. Hydrological controlled aggradation and incision of the upper Indus valley, Ladakh Himalaya, during the late Pleistocene. 34th Convention, Indian Association of Sedimentologists held at Sant Gadge Baba Amravati University, Amravati, 19-21, December, 2017, pp. 198.
 8. **Anil Kumar**, Anil K. Gupta, Som Dutt, Jeet Majumdar, 2017. Late Quaternary summer - monsoon variability through multi-proxy data from site U1457, Arabian Sea. Post cruise meeting NCAOR, Goa. 24-28 July, 2017.
 9. **Anil Kumar** and Pradeep Srivastava, 2015. Late Pleistocene-Holocene records of aggradation and incision of Indus River, Ladakh, NW Himalaya: Role of paleoclimate and tectonics. 30th Himalaya Karakoram Tibet workshop, Dehradun, India, October 6-8, 2015, pp – 24.
 10. Pradeep Srivastava Y.P. Sundriyal, **Anil Kumar**, Suman rawat, Naresh Rana, R.J. Wasson, Rajesh Agnihotri, Narendra Meena and Alan Ziegler, 2015. Paleoflood records in Himalaya. 30th Himalaya Karakoram Tibet workshop, Dehradun, India, October 6-8, 2015, pp – 55.
 11. R. Jayangondaperumal, Y. Kumahara, V.C. Thakur, S. Dubey, **Anil Kumar**, Pradeep Srivastava, A.K. Dubey and V. Joevivek, 2015. Inferring the A.D. 1344 great earthquake surface ruptures using backthrusting and re-calibrated radiocarbon ages in the NW Himalayan frontal thrust system. 30th Himalaya Karakoram Tibet workshop, Dehradun, India, October 6-8, 2015, pp – 199.
 12. Anil D. Shukla, Pradeep Srivastava, Naresh Rana, Pinky Bisht, **Anil Kumar**, R. Jayangondaperumal, Yashpal Sundriyal, Umesh Sharma and Navin Juyal, 2014. Optical chronology suggests Trans Himalayan glaciers responded to the enhanced mid-latitude westerly during the last 30 ka. National Conference on Himalayan Glaciology (NCHG), Shimla, India, October 30 – 31, 2014, pp – 52.
 13. **Anil Kumar**, Pradeep Srivastava and N. K. Meena, 2014. Late Pleistocene aeolian activity in cold desert of Ladakh: A record from sand ramps. Abstract volume, Nation conference on Quaternary Climate Change: New approaches and emerging challenges, December 15-16, 2014, pp – 67.
 14. **Anil Kumar** and Pradeep Srivastava, 2013. Late quaternary landform evolution along the Indus River, Ladakh, NW Himalaya, Abstract volume, 8th IAG international conference on “Geomorphology”, Paris, August, 27th-31st, 2013. pp – 188.

15. **Anil Kumar** and Pradeep Srivastava, 2013. Bivergent evolution of NW Himalayan prism suggested by bed rock incision along the HFT and the ITSZ. Abstract volume, Indian Geophysical Union (IGU) 2013. pp – 26.
16. Pradeep Srivastava and **Anil Kumar**, 2012. Bedrock incision and uplift of along the Indus River, Ladakh: implication on the active tectonics along the Indus Suture Zone. Abstract, Rock Deformation & Structure (RDS-II), October 1st – 3rd, 2012, pp. – 121.
17. **Anil Kumar** and Pradeep Srivastava, 2012. Morpho-tectonic and climatic development of Ladakh Himalaya: Emphasis on palaeo-hydrology and OSL dating. Abstracts & Souvenir, A National seminar on Geology and Geo-resources of Himalaya and Cratonic regions of India, March 10th -12th 2012, pp – 13.
18. Pradeep Srivastava, **Anil Kumar**, Yogesh Ray and V.C. Thakur, 2011. Is the bedrock incision along HFT and the ITSZ suggesting the bivergent nature of the NW part of Himalayan prism? Abstract volume, IMHG 2011. pp – 90.