Curriculum Vitae

Corresponding Address:

Mantaqi Centre for Science and Society, Islamic University of Science and Technology, University Avenue, Awantipora, Pulwama, Pin-192122 Jammu and Kashmir

Personal details:

Name: Dr. Rayees Ahmad Shah

Father's name: Wali Mohmad Shah

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Language Proficiency: English.

Specialization/ Research Interest: Palaeoclimatology, Palaeolimnology, Biogeochemistry, Environment Geology, Palaeopedology, Geomorphology, Geochemistry etc.

Software skills: OxCal, C2, DRAC, Coral Draw, SigmaPlot, SPSS, Triplot, MS Office etc.

Instrument Specialization: Accelerator mass spectrometer, Ionplus AGE Graphitizing Unit for AMS ^{14}C Dating, Vacuum Glass Line Graphitizing Unit (Indigenous developed system), Isotope Ratio Mass Spectrometer, Lexsyg Smart OSL reader, X-ray fluorescence.

Educational Qualification and Research Experience:

Qualification/ Experience	Institute	University/Department	Year
Postdoctoral Fellow	Mantaqi Centre for Science and Society	Islamic University of Science and Technology, Jammu and Kashmir	March 2022 – Present
Senior Project Associate	Centre of excellence for Glacial studies in western Himalaya	University of Kashmir	Oct 2020 – Feb 2022
Postdoctoral Fellow	Physical Research Laboratory	Dept. of Space, Govt. of India	March 2019 - Oct 2020
Ph.D. Geology	Department of Geology	Anna University, Chennai	2015 - 2019
M.Sc. (Applied Geology)	Department of Earth Science	University of Kashmir	2012 - 2014
B. Sc. (Geology, Zoology, Chemistry, English & Environmental Science)	S.P. College Srinagar	University of Kashmir	2009 - 2011

Ph.D. Thesis Title: *Reconstruction of the Late Quaternary Palaeoclimate using Lake and Loess Palaeosol Sediments, Kashmir Valley, North-Western Himalayas*

Awards & Competitive Examination Qualified:

- UGC-Dr. D.S. Kothari Post-Doctoral Fellowship (September 2021)
- Institute postdoctoral fellowship by Physical Research Laboratory (March 2019)
- DST-PURSE Ph.D. research fellowship. (Feb 2015- Feb 2018)
- CSIR-NET in earth, atmospheric, ocean and planetary sciences. (June 2016)
- NCC "C" certificate in navel wing. (Jan 2012)

Reviewer Role in Journals

- Catena
- Aquatic Geochemistry
- Quaternary International
- Episodes
- Journal of Hydrology: Regional Studies
- Sustainable Environment Research
- Acta Ecologica Sinica
- Groundwater for Sustainable Development
- Journal of the Geological Society of India
- Applied Water Sciences
- Environmental and Sustainability Indicators
- Frontiers in Earth Science
- Arabian Journal of Geosciences

Research Publications

1. Rahman A, **Shah RA,** Yadava MG & Kumar S* (**2024**). Carbon and nitrogen biogeochemistry of a high-altitude Himalayan lake sediment: inferences for the late Holocene climate. Quaternary Science Advances https://doi.org/10.1016/j.qsa.2024.100199

2. **Shah RA,** Dar RA & Romshoo SA* (**2024**). Paleoclimatic reconstruction of the Karewa deposits of Kashmir Valley, northwest Himalaya: A review, *Quaternary International*. https://doi.org/10.1016/j.quaint.2024.02.011

3. **Shah RA,** Paul OJ, Dar RA & Romshoo SA* (**2024**). Impact of climate change and anthropogenic activities on lacustrine ecosystems of the Kashmir Valley, NW Himalaya, India. *Environment Quality Management*. https://doi.org/10.1002/tqem.22200

4. **Shah RA**, Rahman A, Yadava MG & Kumar S* (**2023**). Mid-Late Holocene palaeoclimate and biogeochemical evolution of the Wular Lake, Kashmir Valley, India. *Journal of Quaternary Science*. https://doi.org/10.1002/jqs.3565

5. Rahman A, **Shah RA**, Ajayeta R, Yadava MG & Kumar S* (**2023**). Transport pathways of black carbon to a high mountain Himalayan Lake during late Holocene: Inferences from nitrogen isotopes of black carbon. *Palaeogeography, Palaeoclimatology, Palaeoecology*. https://doi.org/10.1016/j.palaeo.2023.111865

6. Verma S, Rahman A, **Shah RA**, Agrawal RK, Yadava MG & Kumar S***** (**2023**). Late Holocene fire and precipitation history of the Kashmir Himalaya: Inferences from black carbon in lake sediments. *Palaeogeography, Palaeoclimatology, Palaeoecology*. https://doi.org/10.1016/j.palaeo.2023.111401

7. **Shah RA*,** Khan I, Rehman A, Kumar S, Achyuthan H, Shukla AD, Kumar P & Dash C **(2022)**. Holocene climate events and associated land use changes in the eastern coast of India: Inferences from the Chilika Lagoon. *The Holocene.* https://doi.org/10.1177/09596836221106964

8. Lone AM, Singh SP*, **Shah RA**, Achyuthan H, Ahmad N, Qasim A, Tripathy GR, Samanta A & Kumar P **(2022)**. The late Holocene hydroclimate variability in the Northwest Himalaya: Sedimentary clues from the Wular Lake, Kashmir Valley. *Journal of Asian Earth Sciences.* https://doi.org/10.1016/j.jseaes.2022.105184

9. Dash C, Shankar R, Pati P, Manjunatha BR, **Shah RA** & Jose J **(2022).** Changes in the Indian Summer Monsoon during the past 600 years: A high-resolution record from the Anshupa Lake, Upper Mahanadi Delta, Core Monsoon Zone of India, Asian Earth Sciences. https://doi.org/10.1016/j.jseaes.2021.105048

10. **Shah RA***, Achyuthan H, Lone AM, Jaiswal MK & Paul D **(2021)**. Constraining the timing and deposition pattern of loess-palaeosol sequences in Kashmir Valley, Western Himalaya: Implications to paleoenvironment studies. *Aeolian Research*. https://doi.org/10.1016/j.aeolia.2020.100660

11. **Shah RA***, Achyuthan H, Lone A, Kumar P, Ali A & Rahman A **(2021)**. Palaeoenvironment Shifts During Last ~500 Years and Eutrophic Evolution of the Wular Lake, Kashmir Valley, India. *Limnology*. https://doi.org/10.1007/s10201-020-00639-7

12. **Shah RA***, Achyuthan H, Krishnan H, Lone A, Saju S, Ali A, Lone SA, Malik SM & Dash C **(2021).** Heavy metal concentration and ecological risk assessment in surface sediments of Dal Lake, Kashmir Valley, Western Himalaya. *Arabian Journal of Geosciences*. https://doi.org/10.1007/s12517-021-06504-w

13. Lone AM*, Sharma S, Achyuthan H, Shukla AD, **Shah RA**, Sangode SJ & Fousiya AA **(2021)** Climatic implications of late Holocene loess and intervening paleosols, Southern Zanskar range, northwestern Himalaya. *Physical Geogra*phy. https://doi.org/10.1080/02723646.2021.1938501

14. **Shah RA***, Achyuthan H, Lone AM, Kumar S, Kumar P, Sharma R, Amir M, Singh AK & Dash C **(2020)**. Holocene palaeoenvironmental records from the high-altitude Wular Lake, Western Himalayas**.** *The Holocene*. https://doi.org/10.1177/0959683619895592

15. **Shah RA***, Achyuthan H, Sangode SJ, Lone AM & Rafiq M **(2020)**. Mineral magnetic and geochemical mapping of the Wular Lake sediment, Kashmir Valley, NW Himalaya. *Aquatic Geochemistry*. https://doi.org/10.1007/s10498-019-09364-9

16. **Shah RA***, Achyuthan H, Lone AM, Lone SA & Malik SM **(2020)**. Environmental risk assessment of lake surface sediments using trace elements: A case study of the Wular Lake. *Journal of the Geological Society of India*. 95:145-151. https://doi.org/10.1007/s12594-020-1403-6

17. Gopal V*, Achyuthan H, **Shah RA** & Jayaprakash M **(2020)**. Physicochemical characteristics and spatial distribution pattern of the Yercaud Lake surface sediments, South India. *Geological Journal*. https://doi.org/10.1002/gj.4023

18. Dash C*, Jaiswal MK, Pati P, Patel NK, Singh AK & **Shah RA (2020)**. Fluvial response to Late Quaternary sea level changes along the Mahanadi delta, east coast of India. *Quaternary International*. https://doi.org/10.1016/j.quaint.2020.07.033

19. Lone AM, Achyuthan H*, **Shah RA,** Sangode SJ, Kumar P, Chopra S & Sharma R **(2020)**. Paleoenvironmental shifts spanning the last ~6000 years and recent anthropogenic controls inferred from a high-altitude temperate lake: Anchar Lake, NW Himalaya. *The Holocene*. https://doi.org/10.1177/0959683619865599

20. Babeesh C*, Achyuthan H, Resmi M.R, Nautiyal CM & **Shah RA (2019)**. Late Holocene Paleoenvironmental Shifts Inferred from Manasbal Lake Sediments, Kashmir Valley: A Multi-Proxy Approach. *Quaternary International.* 507: 156-171.

21. **Shah RA***, Achyuthan H, Puthan-Veettil R, Derwaish U & Rafiq M **(2019)**. Sediment distribution pattern and environmental implications of physico-chemical characteristics of the Akkulam-Veli Lake, South India. *Applied Water Science*. v.9: 188. https://doi.org/10.1007/s13201-019-1054-1

22. **Shah RA*** & Lone SA **(2019)**. Hydrogeomorphological mapping using geospatial techniques for assessing the groundwater potential of Rambiara river basin, western Himalayas. *Applied Water Sciences*. 9: 64. https://doi.org/10.1007/s13201-019-0941-9

23. Lone, A, Achyuthan H*****, **Shah RA** & S.J Sangode **(2018)**. Environmental magnetism and heavy metal assemblages in lake bottom sediments of Anchar, Srinagar, NW

Himalaya, India. *International journal of environmental research.* https://doi.org/10.1007/s41742-018-0108-9

24. **Shah RA**, Achyuthan H*****, Jose P, Lone AM & K Geethanjali **(2018)**. Ferricretes of Sriperumbudur: Micromorphology and Geochemistry. *Journal of the Geological Society of India*. 91: 411-417.

25. Lone AM, **Shah RA,** Achyuthan H***** & Rafiq M **(2018)**. Source identification of Organic Matter using C/N Ratio in freshwater lakes of Kashmir Valley, Western Himalaya, India. *Himalayan Geology*. 9(1): 101-114.

26. Lone AM, Fousiya AA, **Shah RA** & Achyuthan H*** (2018)**. Reconstruction of Paleoclimate and Environmental Fluctuations since the Early Holocene period using OM and C/N proxy records: A review. *Journal of the Geological Society of India*. 91(2): 209-214.

27. Lone A, **Shah RA**, Achyuthan H & Fousiya AA*** (2018)**. Geochemistry, Spatial Distribution and Environmental Risk Assessment in Surface Sediments of Freshwater Anchar Lake, Kashmir Himalayas. *Environmental Earth Sciences.* DOI: 10.1007/s12665-018-7242-8

28. Agarwal KK***, Shah RA**, Achyuthan H, Singh DS, Srivastava S & Khan I **(2018)**. Neotectonic activity from Karewa Sediments, Kashmir Himalaya, India. *Geotectonics*. 52(1): 88-99.

29. **Shah RA**, Achyuthan H*****, Lone AM & Ramanibai R **(2017)**. Diatoms, Spatial Distribution and Physicochemical Characteristics of Wular Lake Sediments, Kashmir Valley, Kashmir. *Journal of the Geological Society of India*. 90(2): 159-168.

Book chapters

1. Achyuthan H*, Lone AM, **Shah RA** & Fousiya AA (**2020**). Climate, C/N Ratio and Organic Matter Accumulation: An Overview of Examples from Kashmir Himalayan Lakes. In: Dimri A, Bookhagen B, Stoffel M, Yasunari T. (eds) *Himalayan Weather and Climate and their Impact on the Environment*. Springer, Cham. https://doi.org/10.1007/978-3-030-29684-1_11

2. **Shah RA**, Lone AM, Achyuthan H***** & Ali A (**2017**). Reconstruction of the Indian summer monsoon fluctuations since the early Holocene using lake and ocean sediment cores from southern India: extreme events and palaeoenvironment. In: Deo SG, Baptista A, Joglekar J. (eds) *Rethinking the Past: A Tribute to Professor V.N. Misra. Indian Society of Prehistoric and Quaternary Studies (ISPQS), Department of Archeology, Deccan College Pune*. ISBN No: 978-81-908330-6-6. pp. 111-117.

Conference and Workshops Attended

1. '5th Workshop on Luminescence Dating and its Applications organized by Association for Luminescence Dating (ALD), India February, 21 - 23, 2024 at Physical Research Laboratory, Ahmedabad, India

2. '21th INQUA Congress', 14 - 21 July 2023, Rome, Italy.

3. Invited Lecture 'Emerging insights on human histories and past environments in India' 7th - 9th June, 2023 organized by centre for central Asian studies, University of Kashmir with financial support from the Ministry of Culture, Government of India.

4. Invited Lecture "The Last Glacial Maximum to Holocene palaeoenvironment of the Kashmir valley, western Himalayas" 10.8.2022 Monthly Talk of Geological Society of India.

5. 'PAGES 6th Open Science Meet – 2022', Agadir, Morocco from 16-05-2022 to 20-05-2022.

6. 'Virtual DEUQUA – 2021' Online (Germany), 30-09-2021 to 01-10- 2021.

7. International Virtual Conference on 'EARTH'S CHANGING CLIMATE: Past, Present & Future' 15-17 October 2020 Organized by The Society of Earth Scientists Co-organized by Birbal Sahni Institute of Palaeosciences, Lucknow

8. '20th INQUA Congress', 25 - 31 July 2019, Dublin, Ireland.

9. 'International conference on Advances in Chemical Sciences and Allied fields of Sciences, health, Education and Environment', 8-10 March 2018, Career College Bhopal.

10. 'International conference on Energy, Environment and industrial Safety SALVATIO 18', 22-23 February 2018, Anna University, Chennai.

11. 'Recent Advances in Earth and Atmospheric Monitoring from space', February 21-22, 2017. Centre for Remote Sensing and Geoinformatics, Sathyabama University, Chennai.

12. 'Advances in Water Resource and Environment Research', June 29-30, 2017.Centre for Remote Sensing and Geoinformatics, Sathyabama University, Chennai.

13. 'XXVI – Indian Colloquium on Micropaleontology and Stratigraphy', August 17 - 19, 2017 Department of Geology, University of Madras.

14. Workshop on 'Geochronology', 16-17 November, 2017, Inter University Accelerator Center, New Delhi-110067.

15. Training course on 'Quantitative reconstructions and numerical methods for analysis of past climate variability using diatoms', 21-24 November, 2017, National Centre for Antarctic and Ocean Research (NCAOR) and Norwegian Polar Institute (NPI) Norway at NCAOR, Goa - 403804.

16. ‘Placer Mineral Resources and Sedimentary Environments’, March 17-18, 2016. Department of Geology, University of Madras, Chennai - 25.

17. Workshop on ‘Accelerator Mass Spectrometry’, April 21-23, 2016. Inter University Accelerator Centre, New Delhi-110067.