

CURRICULUM VITAE of Dr. BINITA PHARTIYAL

Birbal Sahni Institute of Palaeosciences, 53, University Road, Lucknow, U.P., 262007, India

PERSONAL DETAILS

Designation: Scientist 'F'

Head: Palaeomagnetism Lab, BSIP

Permanent address: Hawthorne Villa; Nainital-263001, Uttarakhand, India

E-mail: binita_phartiyal@bsip.res.in, binitaphartiyal@gmail.com

Phone: +91 (522) 2742910 (O) +919411856391 (M)

Date of Birth: 17.12. 1971 **Nationality:** Indian **Sex:** Female **Marital Status:** Married

HIGHER EDUCATION

Degree	Board & Institution	Subject	Division/Award	Year
High School	ICSE Board; St. Mary's Convent, Nainital, Uttarakhand	English, Hindi, Mathematics, Science, History, Geography, Economics	I st Division	1987
Intermediate	UP Board; GGIC, Nainital, Uttarakhand	English, Hindi, Physics, Chemistry, Biology	I st Division	1989
B.Sc.	Kumaun University, Nainital, Uttarakhand, India	Geology, Botany, Zoology	I st Division	1992
M.Sc	Kumaun University, Nainital, Uttarakhand, India	Geology*	I st Division	1994
CSIR(NET) Examination	CSIR Delhi	Earth and atmospheric Sciences	Lectureship	1998
Ph.D	Kumaun University, Nainital, Uttarakhand, India	Geology **	Awarded	2000
PDF	Tuebingen University, Germany	Mineral Magnetism***	DAAD Fellow Visiting Scientist	1999- 2000
D.Sc.	Kumaun University, Nainital, Uttarakhand, India	Geology****	Awarded	2024

***M.Sc. Dissertation title:** Upper Pliocene Soricidae (Insectivora, Mammalia) from the Karewa Intermontane basin, Northwest Himalaya

****Ph.D. title:** Magnetostratigraphy and Clay Mineralogy of selected palaeolake deposits of Kumaun and Ladakh and of Siwalik sequences of Kumaun

*****Post Doctoral Fellowship (PDF) Project title:** The use of mineral magnetic parameters to decipher environmental and climatic changes in the Quaternary palaeolakes of Lesser Himalaya, India

****** D.Sc. title** Late Quaternary Sedimentation in Ladakh region, Trans Himalaya: Implications on climate and tectonics

AWARDS/MEMBERSHIPS

Academy/National Awards

- **Member**, National Committee for the International Union of Geological Sciences (IUGS) and International Quaternary Research (INQUA), **2024-2026**
- **INSA Bilateral Exchange Award-2014**, visited Institute of Tibetan Plateau Research, Beijing, China
- **Guide/Supervisor for Summer Research Fellowship Programme**, jointly sponsored by the three National Science Academies of India (**2016, 2018, 2019, 2020, 2021, 2022, 2023**)
- **Member of the 3rd Indian Arctic Scientific Expedition**, conducted by National Center for Polar and Ocean Research, Goa (**2008**)
- **Member of the 25th (Silver Jubilee) Indian Antarctic Scientific Expedition**, conducted by National Center for Polar and Ocean Research, Goa (**2005-2006**)

Other prestigious awards/recognitions/honors

I. Member of National Committees& Expeditions:

- **Special Invitee** to Accelerator Users' Committee (AUC) of **Inter University Accelerator Centre (IUAC), New Delhi (2025-27)**
- **Member, Research Advisory Committee**, Wadia Institute of Himalayan Geology, Dehradun (**2024-27**)
- **Member, Board of Studies**, Department of Geology under the School of Natural Resource Management (SNRM), Central University of Jharkhand CUJ, Ranchi, India (**2024 onwards**)
- **Member, Research Advisory Committee**, Wadia Institute of Himalayan Geology, Dehradun (**2022-24**)
- Expert Member, Subject Expert Committee (SEC) on Earth and Atmospheric Sciences under '**WISE-KIRAN-Post Doctoral Fellowship (WISE-PDF)**' Program of Department of Science and Technology, India (**2021-24**)
- **Founder Member & Secretary**, Association of Quaternary Researchers (www.aoqr.org) (**2019-2027**)
- **Expert Member of Subject Expert Committee**, Women Scientific Scheme-A, Department of Science and Technology, India (**2016-19**)

II. National and International Grants

- The British Academy's **Leverhulme Small Grants** (SRG22\220841; co-applicant/collaboration) (**2022-23**)
- **SERB-DST project** (under Himalayan Glaciology Research Programme) **2013 (SB/DGH-69/2013)**
- **DAAD** (German Academic Exchange Services) **re-invitation Award**, visiting Scientist at Tübingen University, Germany (**2009**)
- DST FASTRACK Young Scientist Project **2009 (SR/FTP/ES-123/2009)**
- **DAAD Fellow**; Awarded the DAAD (German Academic Exchange Services) Fellowship; visiting scientist at the University of Tübingen, Germany (**1999-2000**)
- **Research Associateship of CSIR**, at Department of Geology, Kumaun University, Nainital-263002, Uttarakhand (**2001**)
- **Joint CSIR-UGC (NET) examination (India) for Lectureship (1998)**

III. Field trainings and Conferences/workshops

- **Member, Scientific Committee**, 40th Convention of Indian Association of Sedimentologists (IAS) and National Conference –An odyssey of sedimentology from Precambrian to Anthropocene: significant contributions in environmental Climatic and energy research (2024)
- **Member, National Advisory Committee**, 29th Indian Colloquium on Micropaleontology and Stratigraphy (ICMS) (2024)
- **Member, Organizing Committee**, 2nd Indian Quaternary Congress (2024)
- **Convener, 1st Indian Quaternary Congress (2022)**
- **Mentor**, Earth and Space Exploration Programme (ESEP-2021)
- **NASA Spaceward Bound India** (Member and Logistic Coordinator) (2016)
- **Field expert** at Field Training Workshop- Quaternary setup of Arid NW Himalaya with main focus on Ladakh, organized by WIHG, Dehradun; Sponsored by DST, New Delhi (2012)
- **Member, Organizing Committee**, National Workshop-Climatic Changes during the Quaternary: Special reference to Polar Regions and Southern Ocean, organized jointly by NCAOR, Goa and BSIP, Lucknow in October (2009)
- Awarded the **D. N. Wadia Best Poster Award**, by Jammu University Geology Alumni Association, Jammu University (2007)

IV. Others

- **Member**, Editorial Board, Quaternary International Journal (Elsevier) (2024 Onwards)
- **Councilor**, Central Himalayan Environment Association (2024-2027)
- **Plaque of Honor** for women excelling in STEM, from Honorable Governor, Uttarakhand She for STEM initiative of Vigyanshala International and UCOST, Dehradun- 2024
- **Plaque of Honor** from CSIR-IITR, Lucknow on **National Science Day-2022**
- **Distinguished Alumni Award**, for Science and Research from St. Joseph's College and St. Mary's Convent, Nainital (2018)
- **Member of Jury in 6th Uttrakhand State Science and Technology Congress (2011)**
- **Best Trainee Award by Indo Tibetan Border Police (ITBP), Auli** for the 25th Indian Antarctica Scientific expedition pre-training and acclimatization course (2005)
- Awarded the **D. N. Wadia Best Poster Award, 2007**; by Jammu University Geology Alumni Association, Jammu University.

In-house (BSIP, Lucknow) Medals/Awards-

- **Dr. P.N. Srivastava Medal-2015** for best piece of research work done in category Scientists 'D'.
- **Shri Chandra Dutt Pant Memorial Medal-2011**, for best piece of research work done in the last three years in category Scientists 'C'
- **Team Medal-2008** from BSIP, amongst scientists of the Institute who have excelled to inculcate team spirit and collaborative integrated work within the Institute.
- **Best Trainee Award 2005 by ITBP, Auli** for the 25th Indian Antarctica Scientific expedition pre-training and acclimatization course
- **Dr. Chunnial Kathiyal Medal 2004**, for best piece of research work done in the last three years in category Scientists 'A'

List the memberships of Professional Bodies

Fellow & Life Member:

- Geological Society of India
- Indian Geophysical Union

Founder Member & Secretary:

- Association of Quaternary Researchers

Life member:

- Indian Science Congress
- Indian Society of Earthquake Science
- Ladakh Science Foundation
- Indian Institute of Geomorphologists
- The Palaeobotanical Society of India
- Palaeontological Society of India
- Himalayan Geology

Positions held in other Scientific Boards:

- **Editor**-Journal of Palaeosciences (Formerly The Palaeobotanist) (**2020 onwards**)
- **Member**, Advisory Editorial Committee-Journal of Geosciences Research (JGSR) (Former Gondwana Geological Magazine) (**2021 onwards**)
- **Member**, Editorial Board, Quaternary International Journal (Elsevier) (**2024 onwards**)
<https://www.sciencedirect.com/journal/quaternary-international/about/editorial-board>
- Tuebingen Research Alumni Center (TRACe)

EMPLOYMENT

Post	Place	Duration	Nature of work
Research Fellow	Department of Geology, Kumaun University, Nainital, UA	1996-1999	Pursued PhD and carried out field and lab studies
Senior Research Fellow	Department of Geology, Kumaun University, Nainital, UA	4 months (Feb-May 1999)	Worked on project-'Neotectonic, Geomorphological, Sedimentological, Palaeoenvironmental and Palaeoclimatic Investigations in the Kumaun Lesser Himalaya' (CSIR Project No. 24 (0240)/98/EMR-II, dated 22.12.1998)
Post Doctoral Fellow	Tuebingen University, Germany	7 th June 1999-30 th September 2000	<ul style="list-style-type: none"> • German language course (June-September 1999) • Worked as DAAD Fellow on- The use of mineral magnetic parameters to decipher environmental and climatic changes in the Quaternary palaeolakes of Lesser Himalaya, India' (DAAD Fellow) (October 1999-Sep 2000)
Research Associate (CSIR):	Department of Geology, Kumaun University, Nainital, UA	1 st May 2001 to 30 th September 2001	Worked on -Quaternary Geology, Neotectonics and Climate of the selected palaeolake basins in Himachal Pradesh, NW India' (CSIR Project No. 9/428(42)/200/-EMR-I).

Scientist 'A'	BSIP, Lucknow	8 th October, 2001 to 14 th September, 2008	Quaternary Palaeoclimate researches using multi-proxy analysis and geomorphological studies of the Ladakh and Lahaul Spiti region
Scientist 'C'	BSIP, Lucknow	15 th September 2008 -30 th June 2013	Quaternary Geology, magnetic studies, tectonics and palaeoclimate of Ladakh and Lahaul Spiti (Tethys and Trans Himalaya), Antarctica and Gujarat.
NCAOR, Goa	Deputation from December 2005-March 2006		to visit Antarctica for field work
NCAOR, Goa	Deputation from June-July 2008		to visit Arctic for field work in Spitzbergen (Svalbard).
Scientist 'D'	BSIP, Lucknow	1 st July 2013-30 th June 2017	Geomorphology and Quaternary Geology, magnetic studies, tectonics and palaeoclimate of Ladakh and Lahaul Spiti
Scientist 'E'	BSIP, Lucknow	1 st July 2017-30 th June 2022	Geomorphology and Quaternary Geology of cold and hot desert regions Magnetostratigraphy and palaeomonsoon signatures in Palaeogene –Miocene Successions of Himalaya. BSIP-Mega Lake Project Geomorphology and Quaternary Geology of Karewa sequence
Scientist 'F'	BSIP, Lucknow	1 st July 2022 onwards	BSIP-Mega Lake Project in Core Monsoon Zone and Ganga Plain Geomorphology and Quaternary Geology of Karewa sequence Collaboration projects

PROJECTS

Total No of Projects: 22 (In-house: 14; Extramural: 5); Others 3

Completed: 19

Ongoing: 3

SN	Period	Title	Status
In-house Projects (BSIP 2001-2022)			
1	April 2025 onwards	Phase 2- Quaternary Monsoon/Climate Reconstruction through high-resolution multi-proxy studies of lacustrine archives along the East-West Corridor in India	Ongoing
2	April 2021 March 2025	Phase 1-Quaternary Monsoon/Climate reconstruction through high resolution multi-proxy studies of lacustrine archives from Central India (Core Monsoon Zone and Indo-Gangetic Plain)	Completed
3	2019 onwards	Astrogeology studies in the Ladakh region: Mars analogue (Collaboration)	Collaboration
4	2020-2025	Sediment Characterization and climate of the Karewa sequence, Kashmir (PhD Students thesis work)	Completed
5	2019-2021	Holocene climate variations in Tethyan and Trans Himalaya with reference to local, regional and global forcings: a multi proxy approach	Completed

6	2019-2021	Towards a basin level synthesis for palaeoclimate modeling: case study from the Kachchh basin (Collaboration)	Completed
7	2019- 2021	Monsoon evolution based on the study of Neogene sequences of NW Himalaya	
8	2018-2021	Oligo-Miocene and associated sedimentary sequences of NW Himalaya: studies on magnetostratigraphy and monsoon intensification and its variability	Completed
9	2017-2020	Factors responsible for driving the glaciation in Ladakh Himalaya during the late Quaternary with special emphasis on Zanskar valley; a multiproxy approach	Completed
10	2017-2019	Palaeogene to Pleistocene sequences of Himalaya: implications to monsoon intensification, its variability and magnetostratigraphy (chronology)	Completed
11	2012-2015	Geomorphological and tectono-climatic signatures in Trans and Tethyan Himalaya during Quaternary period: a multi-proxy approach using sedimentological, mineral magnetic, geochemical and geochronological parameters	Completed
12	2008-2011	Arctic Project: Multi proxy geological studies in Svalbard area and surrounding Ocean: Implications to Quaternary palaeoclimate and pre-Quaternary biostratigraphy.	Completed
13	2006-2009	Antarctic Project: Late Quaternary climatic change of Schirmacher and Larseman Oasis, East Antarctica and surrounding Ocean: a multi proxy approach.	Completed
14	2008-2012	Tectono-climatic signatures in Ladakh and Lahaul sectors of Tethyan Himalaya during Quaternary period: a multi-proxy approach using mineral magnetic, geochemical and geochronological parameters.	Completed
15	2002-2007	Accretionary Evolution, Tectonics and Palaeoclimate in Lahaul-Spiti, Ladakh and Eastern Karakoram regions: study based on Tectonics, Geochemistry, Sedimentology, Petrography, Magnetostratigraphy and palaeobotanical evidences	Completed
Extra mural			
15	2022-2-23		
16	2008-2011	Co-Principal Investigator: Quaternary Sedimentary Records of Baroda Corridor, Mainland Gujarat: A Multidisciplinary Approach; DST Sponsored Project	Completed
17	2011-2014	Principal Investigator: Tectono-climatic variations during Late-Quaternary in the Tangtse valley, Ladakh, NW India. DST Sponsored FAST TRACK Project (SR/FTP/ES-123/2009)	Completed
18	2014-2018	Principal Investigator: Characterization of glacial lake deposits of the Ladakh, NW Trans Himalaya: Implications on landscape evolution and palaeoclimate. SERB DST Sponsored Project (SB/DGH-69/2013)	Completed
19	2022 onwards	Co-Investigator: Ecologies of water care in the Himalaya-water security and climate adaptation in Changthang (British Academy/Leverhulme Small Grants SRG 2022	Completed
	Others		

20	1994	Upper Pliocene Soricidae (Insectivora, Mammalia) from the Karewa Intermontane basin, Northwest Himalaya (Masters Dissertation Project)	Completed
21	1996-1999	Magnetostratigraphy and Clay Mineralogy of selected palaeolake deposits of Kumaun and Ladakh and of Siwalik sequences of Kumaun (Doctoral Research work)	Completed
22	1999-2000	The use of mineral magnetic parameters to decipher environmental and climatic changes in the Quaternary palaeolakes of Lesser Himalaya, India (Post Doctoral Research Project)	Completed

FIELD WORK

Polar regions:

Antarctica (December 2005-March 2006)

Carried out field work and collected several samples from the Schirmacher Oasis region of East Antarctica, over an area of 35 sq km, for palaeoclimatic studies in the Quaternary period.

Arctic, Svalbard region (June July, 2008)

Sample collection in area around Ny Alesund for Quaternary palaeoclimatic studies and sampling of the pre-Quaternary sediments.

Himalayas (Higher, Tethys and Trans)

Himanchal Pradesh; Lahaul-Spiti Valley (June-July 2007, August 2008; September, 2014)

Field work in the Spiti and Pin valleys for the study of Quaternary palaeolake sections for palaeoclimatic and tectonic studies.

Collection of glacial lake samples for palaeoclimate studies.

Jammu and Kashmir- Karewa Lake Basin in & adjoining areas of Srinagar which includes Burzahama, Wanihama, Makaibagh, Karapur, Shankerpora, Dilpur, Hirpora, Pallor, Raithan, Shoipan, Parigram (September 2021, June 2023)

Ladakh and Zanskar (April 2001, July-August 2002, August-September, 2004, September 2009, August 2011, August-Sep. 2012; 2013, 2015, 2016 (NASA Spaceward bound India), 2017, March, August 2018, March, July, August-September 2019, July-August 2021 (ESPS); March-April 2023)

Field work and sample collection in the palaeolake sediments of Leh, and Lamayuru, Sample collection at Khalsi, Mullbeck, Bodhkhharbu, Kargil, Turtuk along Shyok river valley, upto Batalik and Nubra valley up-to Sasoma village (mapping of Quaternary deposits and sample collection). Field work and geomorphological studies around Pangong Tso, Tso Morari, Tsokar lakes; Changla, Nyoma, Hanley valley, Koyul, Fuchke, Tangtse, Chushul; Padum, PensiLa, Kargil, Dras, Sankoo etc.,

Lahaul-Spiti

Field work and sample collection in Losar, Kaza, Lingti, Poh, Sumdo, Gue, Nako, Retti, Khab localities

Himalayas (Lesser Himalayas)

Uttaranchal (Jan-Feb 1997, May-June 1998)

Kumaun Lesser Himalayas- Sample collection for magnetostratigraphy and sedimentological analysis in Kumaun Siwaliks (Ramnagar Garjiya; Ranibagh-Kathgodam and Tanakpur Sukhidang transacts); Sample collection in the palaeo lake deposits in Kumaun; Bageshwar, Pithoragarh, Champawat, Askot, Jauljivi, Tehri Dam site, Tehri, Garhwal

Nepal Himalayas

(December 2000)

Study of the palaeolake deposits at Kathmandu valley, Lukhundul.

Western India

Gujarat (January 2008)

Mainland Gujarat, along the river Mahi; Rayaka, Dodka, Jaspur, Mujhpur, Kavi etc., for multi-proxy palaeoclimatic studies

Rajasthan and Gujarat (December 1993)

Khetri Copper Mines, Chittorgarh, Mehsana, during the B.Sc. and M.Sc. field trips.

Central Ganga Plain

Bihar (March-April 2022)

Kawar wetland, Begusarai

Madhya Pradesh

Bandhavgarh (May 2023; November 2023; May 2025)

RESEARCH INTERESTS

Quaternary palaeoclimate and neotectonics; Mars Analogue Research; Astrogeology; monsoon variations; multi-proxy studies; Environmental studies; Geoheritage

TRAININGS/COURSES ATTENDED

Institute/University	Period/Duration	Training/Research
National Geophysical Research laboratory, Hyderabad	<ul style="list-style-type: none"> December 1997- March 1998 September-October 1998 	Palaeomagnetism; Worked in association with Dr. M. S. Bhalla.
National Institute of Oceanography, Goa	October-November 1998	Clay mineralogy; Worked with Dr. H. N. Hashmi.
Department of Geology, Lucknow University	March-April 1999	Carried a part of the Clay mineral analysis; Worked with Prof. S. Kumar
Institute for Geology and Paleontology, University of Tuebingen, Germany	October 1999- September 2000	Mineral/environmental magnetism Worked with Prof. Erwin Appel
Institute for Geophysics, University of Munich, Germany	January/February 2001	Mineral magnetic measurements of ARM
Department of Geology, Panjab University, Chandigarh	8-11 th October 2002	Participated in a short course of ' Palaeoseismology and Earthquake Geology '
Wadia Institute of Himalayan Geology, Dehradun	<ul style="list-style-type: none"> November-December 2002; March-April 2006; May-June 2007; May, 2008 	Analysis of Quaternary sediments of Ladakh for rock magnetic parameters from sediments of Ladakh, Lahaul-Spiti, Gujarat and Antarctica,
National Center for Antarctic and Ocean Research, Goa	Deputation from December 2005-March 2006	To visit Antarctica for field work
National Center for Antarctic and Ocean Research, Goa	Deputation from 14 th June- 19 th July 2008	To visit Arctic (Svalbard region) for field work.

Institute for Geology and Paleontology, University of Tuebingen, Germany	May-July 2009	Mineral magnetic analysis for palaeoclimate from the arid cold deserts (Ladakh, Schirmacher Oasis and Svalbard)
Institute of Tibetan Plateau Research, CAS, Beijing, China	Deputation from 9 th October -10 th November 2014	<i>n</i> -alkenes biomarker analysis of lake sediments.

INSTRUMENT HANDLING AND QUALITY DATA GENERATION

- Well versed in operating several sophisticated instruments for magnetic data generation such as Magnetometers (Cryogenic, Digital spinner, Molspin slow speed fluxgate, Micromag), susceptibility meters, kappa bridge (KLY 2, KLY 3), AFD's, furnaces, magnetizers, etc. and Seifert and Phillips X-ray diffractometer for clay mineralogy and bulk mineralogy data generation.
- Well versed in various mineral magnetic, palaeomagnetic and clay mineralogical techniques for sample preparation.
- Have generated preliminary data of the water analysis by Soil and water analysis kit in lakes of east Antarctica as well as the rivers of Ladakh.

VISITS ABROAD

Country Visited	Duration of Visit	Reason of visit
Pakistan	April, 1998	Participation and presentation of paper at 13 th HKT (Himalayan Karakorum Tibet) Workshop; Peshawar
Germany	June, 1999- September 2000	Visiting Scientist under DAAD fellowship; Tuebingen
Nepal	December, 2000	Field work in Katmandu lake basin
Germany	November- December, 2001	Analysis of samples and finalization of paper for publication; Tuebingen
South Africa	December, 2005 March, 2006	On the way to Antarctica participating in the 25 th IASE 2005-2006; Cape Town
Antarctica	January-March, 2006	To carry out field work in the Schirmacher Oasis Region.
Australia	July-August, 2007	Participation and presentation of research paper at XVII INQUA; Cairns
Arctic (Svalbard, Norway)	June-July, 2008	To carry out field work in the Ny Alesund region of Spitzbergen; Svalbard
Germany	May-July, 2009	Visiting scientist under DAAD re-invitation scheme; Tubingen
China	September, 2012	Participation and presentation of research paper at 3 rd Sino-Indian Workshop; Biodiversity and Environmental Changes in the Himalaya in Beijing, Hunan and Kaifeng, Xinxiang, China
Nepal	November, 2012	Participation and presentation of research paper at 27 th HKT; Kathmandu
Germany	August, 2013	Participation and presentation of research paper at a joint conference 28 th HKT and 6 th ISTP (International Symposium on Tibetan Plateau); Tubingen
France	August, 2013	Participation and presentation of research paper at 8 th IAG International Conference on Geomorphology; Paris
China	October-	INSA Bilateral Exchange Award -2014; Visited Institute of

	November, 2014	Tibetan plateau Research (ITP); Beijing.
USA	December, 2016	Participation and oral paper presentation in the American Geophysical Union Fall Meeting; San Francisco.
China	July, 2017	Paper presentation in the Third Pole Summit-TPE-CSTP-HKT Joint Conference; Kunming
Ireland	July, 2019	India's bid (for INQUA-2023 presentation) and Paper presentation in the INQUA-2019, Dublin
Italy	July, 2023	India's bid (for INQUA-2027 presentation) and Paper presentation in the INQUA-2023, Rome

LANGUAGES

Languages	Read	Write	Speak
Hindi	VG	VG	VG
English	VG	VG	VG
German	G	F	F

G-Good; VG-Very Good; F-Fair

PUBLICATION LIST OF BINITA PHARTIYAL

A) Total publications Total 97-(58 International; 39 National)

Citations (as on December 2025)

ResearchGate

<https://www.researchgate.net/profile/Binita-Phartiyal>

Citations 1982

Google Scholar

https://scholar.google.com/citations?hl=en&user=QSV_Bk4AAAAJ

Citations	1785
h-index	24
i10-index	49

Research Papers in refereed journals (*corresponding author)

1. **Binita Phartiyal**, Karthick, Balasubramanian; Lahiri, Nayanjot; Tiwari, Arvind; Prasanna, K; Trivedi, Anjali; Manoj, M C; Kawsar, Masud; Renny, Adhra; Thacker, Mittal; Das, Prasanta; Srinivas, Akash. **2025**. Climate-Driven History of last 2600 years: Insights from Bandhavgarh National Park and Tiger Reserve, Central India. **The Holocene** <https://doi.org/10.1177/095968362513587>
2. M C Manoj, Adhra Renny; Masud Kawsar; Srinivas Bikkina; **Binita Phartiyal**; John P. Kurian; Ravi Mishra; Biswajeet Thakur. **2025**. Decoding the sedimentary responses to the monsoon seasonality and ocean circulation in the southeast Arabian Sea during the last 50 ka. **Palaeogeography, Palaeoclimatology, Palaeoecology** <https://doi.org/10.1016/j.palaeo.2025.113384>
3. **Binita Phartiyal**, Aloke Kumar, Shubhanshu Shukla. **2025**. Martian/Lunar Analogue Research Station in India: Ladakh as a potential site. **Current Science**, Vol 1(28); 446-451 [doi: 10.18520/cs/v128/i5/446-451](https://doi.org/10.18520/cs/v128/i5/446-451)

4. Debarati Nag, SJ Sangode; SP Singh; **B Phartiyal.** 2025. Magnetostratigraphic and Mineral Magnetic Characteristics of the Middle Eocene Climatic Optimum (MECO) from the equatorial pericratonic basin of Kutch in Panandhro mine, Gujarat, India. **Geoscience Journal** <https://doi.org/10.1007/s12303-025-00021-8>
5. Sourav Mukhopadhyaya, Pratik Pandey, Prabhin Sukumarana, **Binita Phartiyal**, Swati Verma, Varun Vyase, Navashni Naidoo, Avantika Binania, Jessica L. Conroyh, Parth R. Chauhan. 2025. Late Quaternary Fluvio-Aeolian interactions and possible aridification in west-central India: Implications for prehistoric human adaptations in the Central Tapi Valley, **Quaternary International** <https://doi.org/10.1016/j.quaint.2025.109878>
6. Mohd Munazir Chauhan and Sajid Ali and Birendra P Singh and Vikas Adlakha and Mohammad Arif and **Binita Phartiyal** and Mamilla Venkateshwarlu and Sanjay Kumar. 2025. Reconstruction of the Late Miocene climate record in the Himalayan foreland Basin: The impact of Himalayan uplift and monsoon dynamics. **Journal of Asian Earth Sciences**, 280: 106445, <https://doi.org/10.1016/j.jseaes.2024.106445>
7. Wasim Abass Wazir, Rajeev Patnaik, Mohammad Arif, Sarvendra P Singh, **Binita Phartiyal**, Chris Gilbert, Ramesh Kumar Sehgal, Deepak Choudhary, Rohit Kumar and Mohd Ali Wazir. 2025. New paleomagnetic data from the Ladakh Molasse Group provide a Late Oligocene (26.5 Ma) age for the Brst post India-Asia collision continental sediments: Biostratigraphic implications. **J. Earth Syst. Sci.**, 134:171 <https://doi.org/10.1007/s12040-025-02629-8>
8. Mohd Munazir Chauhan, Sajid Ali, Ali, Pankaj Kumar, Madhav K Murari, Pujarini Samal, Birendra P Singh, Vikas Adlakha, Leema Saikia, **Binita Phartiyal**, Anupam Sharma. 2025. Tracing Indian Monsoon variability through a Late Miocene record from the Himalayan foreland basin **Climate and Atmospheric Science** (Accepted)
9. Chaddha AS, Shukla SK, Kumar K, Sharma A, Kapur V, **Phartiyal B** and Thakkar MG. 2024. “Clues of Life” through Mineral Lattice Investigation in the Extreme Cold Conditions of Ladakh, India: An Astrobiological Perspective Using the Geyser Travertine Deposit of Puga Hot Spring. **Research Square preprint**; <https://doi.org/10.21203/rs.3.rs-5522737/v1>
10. **Binita Phartiyal**, Arvind Tiwari, Masud Kawsar, M.C. Manoj, Mayank Shekhar, Nawaz Ali, Ravi Bhushan, Rujal R. Pachchigar, Anurag Kumar, Prasanna K and Anupam Sharma. 2024. Millennial to centennial scale climate oscillations since 15000 cal yr BP from Kanwar wetland in the Central Ganga Plain. **Quaternary Science Reviews** 335. 108760, ISSN 0277-3791, <https://doi.org/10.1016/j.quascirev.2024.108760>
11. Debarati Nag, Satish J Sangode, Sarvendra P Singh, Prem R Uddandam, Adrita Choudhuri, **Binita Phartiyal**, Vandana Prasad. 2024. Magnetostratigraphy and rock magnetic studies on the Cretaceous-Paleogene transition strata along the Um Sohryngkew River, Therriaghat, Meghalaya, India, **Geological Journal**. 1–20. DOI: <https://doi.org/10.1002/gj.5046>
12. Nayanjot Lahiri, **Binita Phartiyal*** and Karthick Balasubramanian. 2024. Significance of radiocarbon Accelerator Mass Spectrometry (AMS) chronology of Bandhavgarh National Park and Tiger Reserve from an archeological perspective. **Current Science** 127(1), 98-101 doi: [10.18520/cs/v127/i1/98-101](https://doi.org/10.18520/cs/v127/i1/98-101)
13. Nagendra Prasad, Mohammad Firoze Quamar, M.E.T. Maneesha, Pooja Tiwari, Biswajeet Thakur, Anupam Sharma, **Binita Phartiyal**, Mohammad Javed. 2024. Late Holocene

vegetation history and monsoonal climate change from the Core Monsoon Zone of India, **CATENA**, 246, 108394 <https://doi.org/10.1016/j.catena.2024.108394>

14. Anjali Trivedi, Sheikh Nawaz Ali, M.C. Manoj, Shailesh Agrawal, Anupam Sharma, **Binita Phartiyal**, Kamlesh Kumar, Arvind Tiwari, P. Morthekai, Biswajeet Thakur, Anjum Farooqui, Mohd Ikram, Anupam Nag, Pooja Nitin Saraf, Pooja Tiwari. **2024**. Characterization of biotic and abiotic signatures of modern lake sediments of western India, and its palaeo-environmental implications. **Quaternary International**. 708. 36-57. [Doi.org/10.1016/j.quaint.2024.08.002](https://doi.org/10.1016/j.quaint.2024.08.002)
15. Chaddha, A.S., Sharma, A., Singh, N.K., Ali, S. N., Das, P.K., Pandey, S.K., **Phartiyal, B.**, Kumar, S. **2024**. Exploring the astrobiological potential of rock varnish from a Mars analogue field site of Ladakh, India. **Planetary and Space Science**, 248: 105932. <https://doi.org/10.1016/j.pss.2024.105932>
16. Md. Firoze Quamar, Biswajeet Thakur, Anupam Sharma, Kamlesh Kumar, Pooja Tiwari, Arvind Tiwari, Nagendra Prasad, Jyoti Srivastava, **Binita Phartiyal**, & M.C Manoj, Ipsita Roy, Pooja Saraf, Prasanna K, Nazakat Ali, Ikram Khan, Shilpa Pandey, Anjali Trivedi,. **2024**. Multiproxy studies on the spatially distinct surface samples to reconstruct palaeoecology and palaeoclimate from the Core Monsoon Zone of India. **Journal of the Palaeontological Society of India**. [10.1177/05529360241240095](https://doi.org/10.1177/05529360241240095).
17. Mohd Munazir Chauhan, Sajid Ali, Birendra P. Singh, Vikas Adlakha, **Binita Phartiyal**, Kamlesh Kumar, Anupam Sharma. **2024**. Silicate weathering linked with global climate change along the Mid-Pleistocene transition: A record from the Himalayan foreland Basin, India. **Catena**, 241,108047, <https://doi.org/10.1016/j.catena.2024.108047>
18. Debarati Nag, **Binita Phartiyal***, Sailesh Agrawal, Pankaj Kumar, Rajveer Sharma, Kamlesh Kumar, Anupam Sharma, Mallickarjun Joshi. **2023**. Westerly-Monsoon variations since the last deglaciation from semi-arid Ladakh region, Trans Himalaya, India. 618, 111515, **Palaeogeography, Palaeoclimatology, Palaeoecology** <https://doi.org/10.1016/j.palaeo.2023.111515>
19. Tathagata Chakraborty, Dharmendra Kr Pandey. Sushil K Singh, **Binita Phartiyal** and Deepak Putrevu. **2023**. Characterization of Permafrost Active Layer using Polarimetric SAR and Ground Data over North-Western Indian Himalaya. **IEEE India Geoscience and Remote Sensing Symposium (InGARSS)** | 979-8-3503-2559-1/23/©2023 IEEE | DOI: [10.1109/InGARSS59135.2023.10490358](https://doi.org/10.1109/InGARSS59135.2023.10490358)
20. Swati Tripathi, Biswajeet Thakur, Anupam Sharma, **Binita Phartiyal**, Sadhan Kumar Basumatary, Ruby Ghosh, Kamlesh Kumar, Manoj MC, Shailesh Agrawal, Anjum Farooqui, Pooja Tiwari, Korobi Saikia, Arvind Tiwari, Arya Pandey, Nazakat Ali, Rajesh Agnihotri, Prasanna K, P. Morthekai, Parminder Singh Ranhotra, Shilpa Pandey, Trina Bose. **2023**. Modern biotic and abiotic analogues from the surface soil of Ganga-Ghaghara-Gandak interfluves of the Central Ganga Plain (CGP), India: Implications for the palaeoecological reconstructions. **Catena**. 224. 106975, <https://doi.org/10.1016/j.catena.2023.106975>
21. Joshi Priyanka, **Phartiyal Binita*** Joshi Mallickarjun, Agrawal Shailesh and Pankaj Baghel. **2023**. Reconstruction of landscape and climate during last 7000 cal yr BP of the largest basin of the Ladakh Range, NW Indian Himalaya. **Catena**. 223, 106907. <https://doi.org/10.1016/j.catena.2022.106907>

22. Sunil Kumar Shukla, Amritpal Singh Chaddha , Kamlesh Kumar , Anupam Sharma, Santosh Kumar Pandey, Vivesh Vir Kapur, **Binita Phartiyal**, A. Shivam, Ankur Dabhi, Ravi Bhushan. **2023**. Hot spring diatoms are linked to extreme cold conditions: A new perspective for astrobiological implication from the sinter deposit of Puga hot spring, Ladakh, India **ESS Open Archive DOI:10.22541/essoar.170158324.46307742/v1**

23. Abhishek Kumar, D M Maurya, **Binita Phartiyal**, Md. Arif, Niteshkumar Khonde, Ravi Bhushan and L. S. Chamyal. **2023**. Holocene evolution of the Banni plain, NW margin of Arabian sea: constraints from a ~50 m sediment core. **The Depositional Record**, 00:1–26. [DOI: 10.1002/dep2.241](https://doi.org/10.1002/dep2.241)

24. Farooqui, A., Khan, S., Agnihotri, R., **Phartiyal, B.**, & Shukla, S. **2023**. Monitoring hydroecology and climatic variability since ~4.6 ka from palynological, sedimentological and environmental perspectives in an Ox-bow lake, Central Ganga Plain, India. **The Holocene**, 33(12). <https://doi.org/10.1177/09596836231183067>

25. Ghosh R, Korobi Saikia, Oindrila Biswas, Shailesh Agrawal, P. Morthekai, Mohd. Arif, **Binita Phartiyal**, Anupam Sharma, Neha Singh, Dipak Kumar Paruya, Pyarimohan Maharana, Mayank Shekhar, Subir Bera, **2023**. Last 10 millennial history of Indian summer monsoon in the Bengal region – a multi-proxy reconstruction from a lacustrine archive. **Palaeogeography, Palaeoclimatology, Palaeoecology** 609 (2023) 111308 <https://doi.org/10.1016/j.palaeo.2022.111308>

26. **Phartiyal B** & Nag D **2022**. Sedimentation, tectonics and climate in Ladakh, NW Trans-Himalaya-with a special reference to Late Quaternary Period. Special Issue-Continental Lithosphere: Integrated Geoscientific Aspects. **Geosystems and Geoenvironment**. 1(4): 2772-8838 <https://doi.org/10.1016/j.geogeo.2022.100031>

27. Verma S, **Phartiyal B*** and Chandra R. **2022**. Quaternary Geoheritage sites of Northwest Himalaya: Loess-Palaeosol and palaeo fluvio-lacustrine-a necessitate protection Geoheritage 14:109 <https://doi.org/10.1007/s12371-022-00743-3>

28. **Phartiyal B**, Ali Nawaz, Sharma A, Agrawal S, Nag D, Tiwari P, Kumar M, Morthekai P, Govil P, Thakur B, Bhushan R, Jena PS and Shivam A. **2022**. Palaeoclimatic variability during last eight millennia from a morainal lake in Zanskar, northwest Himalaya, India. **Journal of Palaeosciences** 71 (1), 75-88 <https://doi.org/10.54991/jop.2022.545>

29. Nag D, **Phartiyal B***, Kumar P, Joshi P and Singh R. **2022**. Geomorphological and sedimentological evidences of palaeo-outburst flood events from TanglangLa-Gya catchment of River Indus, Ladakh, India. **Physical Geography DOI:10.1080/02723646.2021.2022339**

30. Kumar M, Saikia K, Agrawal S, Ghosh R, Ali S Nawaz, Arif Md., Singh D S, Sharma A, **Phartiyal B**, Bajpai S. **2021**. Climatic control on the C3 and C4 plant abundance during the late Pleistocene – Holocene in the northern Gangetic Plain, India. **Palaeogeography, Palaeoclimatology, Palaeoecology**. 591. 110890. ISSN 0031-0182. <https://doi.org/10.1016/j.palaeo.2022.110890>

31. **Phartiyal B**, Singh R, Nag D, Sharma A, Agnihotri R, Prasad V, Yao T, Yao P, Joshi P, Balasubramanian K, Singh SK & Thakur B. **2021**. Reconstructing Climate variability during the last four millennia from Trans-Himalaya (Ladakh-Karakoram, India) using multiple

proxies. *Palaeogeography, Palaeoclimatology, Palaeoecology*
<https://doi.org/10.1016/j.palaeo.2020.110142>

32. **Phartiyal B**, Clarke Jonathan D A & Pandey S **2021**. Prospects of Astrogeology and Astrobiology researches in India: Ladakh as an example. *Journal of Palaeosciences* 70: 326-337 [DOI: https://doi.org/10.54991/jop.2021.24](https://doi.org/10.54991/jop.2021.24)
33. Tiwari AK, Singh AK, **Phartiyal B** & Sharma A. **2021**. Hydrogeochemical characteristics of the Indus river water system, *Chemistry and Ecology*, [DOI: 10.1080/02757540.2021.1999425](https://doi.org/10.1080/02757540.2021.1999425)
34. Makwana N, Prizomwala S P, Das A, **Phartiyal B**, Sodhi A & Vedpathak C. **2021**. Reconstructing the climate variability during the last 5000 years from the Banni Plains, Kachchh, Western India. *Frontiers in Earth Science*, [doi: 10.3389/feart.2021.679689](https://doi.org/10.3389/feart.2021.679689)
35. **Phartiyal B**, Nag Debarati & Joshi Priyanka **2021**. Holocene Climatic Record of Ladakh, Trans-Himalaya in (Eds) Navnith K P Kumaran & D. Padmalal, *Holocene Climate Change and Environment*, Elsevier; 61-88pp
36. Nag D, **Phartiyal B*** & Joshi M. **2021**. Late Quaternary tectono-geomorphic forcing vis-à-vis topographic evolution of Indus catchment, Ladakh, India. *Catena* <https://doi.org/10.1016/j.catena.2020.105103>
37. Agnihotri R, Patel Nikhil, Srivastava Pradeep, Ambekar Abhijit, Md. Arif, Kumar Anil, **Phartiyal Binita**, Kumar Alok. **2021**. A new chronology based on OSL and Radiocarbon dating for the archaeological settlements of Vadnagar (western India) along with magnetic and isotopic imprints of cultural sediments. *Journal of Archeological Science*. 38.103045. ISSN 2352-409X. [DOI:10.1016/j.jasrep.2021.103045](https://doi.org/10.1016/j.jasrep.2021.103045)
38. Raj Rachna, Tripathi Jayant K., Kumar Pankaj, Singh Saurabh K., **Phartiyal Binita**, Sharma Anupam, Sridhar Alpa, Chamyal L. S. **2021**. Palaeoclimatic and sea-level fluctuations from the last deglaciation to late Holocene from western India: evidence from multiproxy studies. *Journal Asian Earth Science*. 214(2021)104777. <https://doi.org/10.1016/j.jseaes.2021.104777>
39. Kumar A, Maurya D M, Khonde N, **Phartiyal B**, Arif Md, Giosan L& Chamyal L S. **2021**. Holocene palaeoenvironmental changes in the marginal marine basin of Great Rann of Kachchh, western India: Insights from sedimentological and mineral magnetic studies on a ~60 m long core. *Quaternary International*, Volumes 599–600, Pages 138-147
40. Chaddah A, Mathews R P, Kumar K, **Phartiyal B**, Ali S N, Morthekai P., Sharma A. **2021**. Caves as interim-refugia: chemical signatures of human habitation under extreme environments of Ladakh, NW India. *Journal of Archaeological Science* <https://doi.org/10.1016/j.jasrep.2021.102799>
41. Ali Sajid, **Phartiyal B**, Taloor A, & Arif M & Singh BP. **2021**. Provenance, weathering, and paleoclimatic records of the Pliocene-Pleistocene sequences of the Himalayan foreland basin, NW Himalaya. *Arabian Journal of Geosciences*, 14:198. <https://doi.org/10.1007/s12517-021-06461-4>
42. **Phartiyal B**, Kapur VV, Nag N and Sharma A. **2021**. Spatio-temporal climatic variations during the last five millennia in Ladakh Himalaya (India) and its links to archaeological finding(s) (including coprolites) in a palaeoecological and palaeoenvironmental context: A

43. Joshi P, **Phartiyal B*** and Joshi M. **2021.** Hydro-climatic variability during last five thousand years and its impact on human colonization and cultural transition in Ladakh sector, India. *Quaternary International* 599-600:45-54 <https://doi.org/10.1016/j.quaint.2020.09.053>
44. **Phartiyal B**, Singh R, Joshi P & Nag D **2020.** Late Holocene climatic record in glacial lake of Ladakh Range, Trans-Himalaya, India. *The Holocene*, 1-14; DOI: 10.1177/0959683620908660
45. **Phartiyal B**, Farooqui A & Bose T **2020.** Climate change variability through lacustrine records published during 2016-2019: Implications, New approaches, and Future direction. *Proc Indian Natn Sci Acad* 86(1); 389-403 [doi:10.16943/ptinsa/2020/49783](https://doi.org/10.16943/ptinsa/2020/49783)
46. Sharma S, Agnihotri R, Pokharia AK, **Phartiyal B**, Bajpai S, Pande PC, Manjul SK, Manzul A, Maharana C, Ojha S. **2020.** Environmental magnetic, Geochemical and Sulfur isotopic imprints of an Indus archaeological site 4MSR from western India (Rajasthan): Implications to the Indus industrial (metallurgical) activities. *Quaternary International*. <https://doi.org/10.1016/j.quaint.2020.03.038>
47. Ali SN, Agrawal S, Morthekai P, Phartiyal B, Sharma A, Farooqui S, 2020. Holocene hydroclimate variability in the Zanskar valley, Northwestern Himalaya, India. *Quaternary Research* 97, 140-156. [10.1017/qua.2020.22](https://doi.org/10.1017/qua.2020.22)
48. Sangode SJ, Srivastava P, **Phartiyal B**, Mangave S, Ghude S & Chate D 2020. CCPPF Volume 3 no 1. [10.13140/RG.2.2.31431.93606](https://doi.org/10.13140/RG.2.2.31431.93606).
49. Sharma A & **Phartiyal B** 2020. Geomorphological Changes During Quaternary Period Vis a Vis Role of Climate and Tectonics in Ladakh, Trans-Himalaya. In (Eds) A.P. Dimri, B. Bookhagen, M. Stoffel, T. Yasunari; *Himalayan Weather and Climate and their Impact on the Environment*; Springer. [10.1007/978-3-030-29684-1_10](https://doi.org/10.1007/978-3-030-29684-1_10).
50. Srivastava P, Kumar A, Singh R, Deepak O, Singh A, Ray Y, Jayangondaperumal R, **Phartiyal B**, Chahal P, Sharma P, Ghosh R, Kumar N & Agnihotri R 2020. Rapid lake level fall in Pangong Tso(lake) in Ladakh, NW Himalaya: a response of late Holocene aridity *Current Science*, 19(2): 219–231. [10.18520/cs/v119/i2/219-231](https://doi.org/10.18520/cs/v119/i2/219-231).
51. Ali SN, Morthekai P, Bajpai S, **Phartiyal B**, Sharma A, Quamar MF & Prizomwala S 2020. Redefining the timing of Tongul glacial stage in the Suru valley, NW Himalaya, India: New insights from luminescence dating. *J. Earth Syst. Sci.* 129(16):1-11 <https://www.ias.ac.in/article/fulltext/jess/129/0016>
52. Pandey S, Clarke J, Nema P, Bonaccorsi R, Som S, Sharma M, Phartiyal B, Rajamani S, Mogul R, Martin-Torres J, Vaishampayan P, Blank J, Steller L, Srivastava A, Singh R, McGuirk S, Zorzano María-Paz, Gütler JM, Mendaza T, Soria-Salinas A, Ahmed S, Ansari A, Singh VK, Mungi C & Bapat N 2019. Ladakh: Diverse, High-Altitude Extreme Environments for Off Earth Analogue and Astrobiology Research. *International Journal of Astrobiology*, 19(1), 78–98. DOI: <https://doi.org/10.1017/S1473550419000119>

53. Singh R, Patnaik R, **Phartiyal B** & Pandey B 2018. Record of a ~3000-year-old bird humerus from Ladakh. *Anusandhan* 6(1):12-17 DOI 10.22445/asvp.v6.i.
54. Makwana N, Prizomwala S, Chauhan G, **Phartiyal B**, & Thakkar MG 2018. Late Holocene palaeo-environmental change in the Banni Plains, Kachchh, Western India, *Quaternary International* DOI: 10.1016/j.quaint.2018.11.028
55. Sharma A & **Phartiyal B** 2018. Late Quaternary palaeoclimate and contemporary moisture source to extreme NW India: a review on present understanding and future prospective. *Frontiers of Earth Science* <https://doi.org/10.3389/feart.2018.00150>
56. Ali SN, Thakur B, Morthekai P, Farooqui S, **Phartiyal B**, Seth P & Sharma A 2018. Diatom Diversity under extreme climate:a study from Zanskar valley, NW Himalaya, India. *Journal of the Palaeontological Society of India* 63(1):119-126
57. **Phartiyal B**, Singh R & Nag D 2018. Trans and Tethyan-Himalayan Rivers-in reference to Ladakh and Lahaul Spiti, NW Himalaya, India. In: (Eds.) Singh, D. S. *The Indian Rivers: An Introduction for Science and Society*, Springer Hydrogeology, book series (SPRINGERHYDRO), 367-382pp
58. Ali SN, Quamar MF, **Phartiyal B** & Sharma A 2018. Permafrost researches in Indian Himalaya: an utmost need to speed up. *Journal of Climate Change* 4(1):33-36. DOI: 10.3233/JCC-180004
59. Nag D, **Phartiyal B** & Singh DS 2016. Sedimentary characteristics of palaeolake deposits along Indus river valley, Ladakh, Trans-Himalaya: implications to depositional environment. *Sedimentology* 1-21 <https://doi.org/10.1111/sed.12289>
60. Quamar MF, Ali SN, **Phartiyal B**, Morthekai P & Sharma A 2016. Recovery of palynomorphs from high-altitude cold desert of Ladakh, NW India: An aerobiological perspective. *Geophytology* ISSN 0376-5561. 46(1):67-73.
61. Raj R, Chamyal LS, Juyal N, **Phartiyal B**, Ali SN & Thakur B 2016. Late Quaternary charact- fluvial interaction: palaeoenvironment and palaeoclimatic conditions in the piedmont zone of Vatrak River basin, western India. *Zeitschrift für Geomorphologie* 60(2):151-169 DOI:10.1127/zfg/2016/0234
62. Sharma A, Bhattacharya A, **Phartiyal B** & Bera SK 2016. Multi-proxy studies on Late Quaternary Lake sediments from Schirmacher Oasis, East Antarctica. 26th Indian Expedition to Antarctica Report, Technical publication No 24, 345-377pp.
63. Srivastava P, Ray Y, **Phartiyal B** & Sundriyal YP 2016. Rivers in the Himalaya: Responses to Neotectonics and Past Climate. *Proceedings of Indian National Science Academy*, 82 (3):763-772. DOI: 10.16943/ptinsa/2016/48483
64. Achyuthan H, Farooqui A, Gopal V, Phartiyal B & Lone A 2016. Late Quaternary to Holocene Southwest Monsoon Reconstruction: Review Based on Lake and Wetland Systems (Studies Carried Out During 2011-2016). *Proceedings of Indian National Science Academy*, 82(3):847-858. DOI: 10.16943/ptinsa/2016/48489

65. **Phartiyal B**, Singh R & Kothiyari GC 2015. Late-Quaternary geomorphic scenario due to changing depositional regimes in the Tangtse Valley, Trans-Himalaya, NW India. *Palaeogeography, Palaeoclimatology, Palaeoecology* 422:11-24. <https://doi.org/10.1016/j.palaeo.2015.01.013>

66. Nag D & **Phartiyal B** 2015. Climatic variations and geomorphology of the Indus River Valley, between Leh and Batalik, Ladakh (NW Trans Himalayas) in Late Quaternary. *Quaternary International* 371:87-101 <https://doi.org/10.1016/j.quaint.2014.08.045>

67. Farooqui A, Aggarwal N, Jha N, **Phartiyal B** 2015. Oldest record of freshwater diatom frustules in tests of Permian thecamoebians: faithfulness of sedimentary record. *International Journal of Current Microbiology and Applied Sciences* 7:472-485 (ISSN: 2319-7706)

68. Singh R, **Phartiyal B** & Pandey B 2015. Madhay Asia Mein Holocene Ke Dauraan Ardrtaa Vikaas- Ek Sameekshaa. *Anusnadhan (Vigyan Shodh Patrika)* 3(1):50-53. (ISSN: 2322-0708)

69. **Phartiyal B** 2014. Holocene paleoclimatic variation in the Schirmacher Oasis, East Antarctica: a mineral magnetic approach. *Polar Science* 8:357-369 <https://doi.org/10.1016/j.polar.2014.06.001>

70. Prasad V, Farooqui A, Sharma A, **Phartiyal B**, Chakraborty S, Bhandari S, Raj R and Singh A. 2014. Mid-Late Holocene monsoonal variations from mainland Gujarat, India: A multi-proxy study for evaluating climate culture relationship. *Palaeogeography, Palaeoclimatology, Palaeoecology* 397:38-51. <http://dx.doi.org/10.1016/j.palaeo.2013.05.025>

71. **Phartiyal B**, Sharma A & Kothari GC 2013. Existence of Late Quaternary and Holocene lakes along the River Indus in Ladakh Region of Trans Himalaya, NW India: implications to climate and tectonics. *Chinese Science Bulletin* 58(I):142-155 DOI: [10.1360/tb-2013-suppl008](https://doi.org/10.1360/tb-2013-suppl008)

72. **Phartiyal B** 2013. Climatic history and landscape evolution of Schirmacher Oasis, East Antarctica during Late Quaternary: A multi-proxy study 25th Indian Expedition to Antarctica Report, Technical publication No 24, 73-105pp.

73. Chauhan MS, Sharma A, **Phartiyal B** & Kumar K 2013. Early Holocene vegetation and climate change in central India: A study based on pollen and geochemical evidences. *Journal Asian Earth Science* 77:45-58. [Doi.org/10.1016/j.jseas.2013.08.005](https://doi.org/10.1016/j.jseas.2013.08.005)

74. Srivastava P, Ray Y, **Phartiyal B** & Sharma A. 2013. Late Pleistocene-Holocene Morpho-Sedimentary architecture, Spiti River, Arid Higher Himalaya. *International Journal of Earth Sciences* DOI [10.1007/s00531-013-0871-y](https://doi.org/10.1007/s00531-013-0871-y)

75. **Phartiyal B**, Sen K & Meena NK 2012. Anomalous Magnetic Fabric in Apparently undeformed Lacustrine Deposits: A Case Study from NW Trans-Himalaya, Ladakh, India. *Earth Science India* 5 (III):92-107 ISSN: 0974 – 8350

76. Bera SK, **Phartiyal B** & Sharma A 2012. Evidence of Pollen – Spores Retrieved from Lichen Patches Distributed in Schirmacher Oasis and Adjacent Nunataks, East Antarctica: A Case Study of Pollen Transport over Polar Region. *International Journal of earth Sciences and Engineering* 05(04):724-731 ISSN 0974-5904

77. **Phartiyal B** & Kothiyari GC 2012. Impact of neotectonics on drainage network evolution reconstructed from morphometric indices: case study from NW Indian Himalaya, India. *Zeitschrift für Geomorphologie* 56(1):121-140 [DOI: 10.1127/0372-8854/2011/0059](https://doi.org/10.1127/0372-8854/2011/0059)

78. **Phartiyal B**, Sharma A & Nautiyal CM 2011. Interpretation of the apparent Ages in the Ladakh and Lahaul Spiti Quaternary Lacustrine Sediments. In: *Dhruv Sen Singh and N. L. Chabra (Eds.), Geological Processes and Climate Change*, Macmillan Publishers India Ltd., 105-116pp. ISBN:978-0230-32192-2

79. **Phartiyal Binita**, Sharma Anupam & Bera S K. 2011. Glacial Lakes and geomorphological evolution of Schirmacher Oasis, East Antarctica, during Late Quaternary. *Quaternary International*, 235, 128-136. [Doi:10.1016/j.quaint.2010.11.025](https://doi.org/10.1016/j.quaint.2010.11.025)

80. Kotlia BS, Sanwal J, **Phartiyal B**, Joshi LM, Trivedi A & Sharma C 2010. Late Quaternary climatic changes in eastern Kumaun Himalaya, India as deduced from multi-proxy studies. *Quaternary International*, 213:44-55. [Doi:10.1016/j.quaint.2009.09.002](https://doi.org/10.1016/j.quaint.2009.09.002)

81. **Phartiyal B**, Srivastava P & Sharma A 2009. Tectono-Climatic signatures during Late Quaternary Period from Spiti valley, NW Himalaya, India. *Himalayan Geology* 30 (2):164-174.

82. **Phartiyal B**, Sharma A, Srivastava P & Ray Y 2009. Chronology of relic lake deposits in the Spiti river, NW Trans Himalaya: Implications to Late Pleistocene-Holocene climate-tectonic perturbations, *Geomorphology* 108:264-272. [Doi:10.1016/j.geomorph.2009.02.018](https://doi.org/10.1016/j.geomorph.2009.02.018)

83. **Phartiyal B** & Sharma A 2009. Soft-deformation deformation structures in the Late Quaternary sediments of Ladakh: Evidence for multiple phases of seismic tremors in the North western Himalayan Region. *Journal of Asian Earth Science* 34, 761-770. [Doi:10.1016/j.jseas.2008.11.008](https://doi.org/10.1016/j.jseas.2008.11.008)

84. Kotlia BS, **Phartiyal B**, Kosaka T & Bohra A 2008. Magnetostratigraphy and Lithology of Miocene-Pliocene Siwalik deposits between Tanakpur and Shukhidang, southeastern Uttarakhand Himalaya, India. *Himalayan Geology*, 29(2), 127-136.

85. Kotlia, Bahadur & Sanwal, Jaishri & **Phartiyal, Binita** & Joshi, Lalit & Trivedi, Anjali & Sharma, Chhaya. (2008). Late Quaternary climatic changes in the eastern Kumaun Himalaya, India as deduced from multi-proxy studies. *Himalayan Journal of Sciences*. 5. 10.3126/hjs.v5i7.1277.

86. **Phartiyal, B.**, & Sharma, A. 2008. Geochemistry of Late Quaternary Spituk palaeolake deposits of Ladakh, NW Himalaya. *Himalayan Journal of Sciences*, 5(7), 141. <https://doi.org/10.3126/hjs.v5i7.1322>

87. Sangode SJ, Sinha R, **Phartiyal B**, Chauhan OS, Mazari RK, Bagati TN, Suresh NRN, Mishra S, Kumar R & Bhattacharjee P 2007. Environmental magnetic studies on some Quaternary sediments of varied depositional settings in the Indian subcontinent. *Quaternary International* 159:02-108. [Doi:10.1016/j.quaint.2006.08.015](https://doi.org/10.1016/j.quaint.2006.08.015)

88. Prasad V, **Phartiyal B** & Sharma A 2007. Evidence of enhanced winter precipitation and prevalence of cool and dry conditions during Mid to Late Holocene in Gujarat. *The Holocene* 17(7):8892-8896. [DOI: 10.1177/0959683607082403](https://doi.org/10.1177/0959683607082403)

89. Paul SK, Ram-Awatar, Mehrotra RC, Sharma A, **Phartiyal B** & Dorje CP 2007. A new fossil palm leave from the Hemis Formation of Ladakh, Jammu and Kashmir, India. *Current Science* 92(6):727-729.
90. Mehrotra RC, Ram-Awatar, Sharma A & **Phartiyal B** 2007. A new palm leaf from the Indus Suture Zone, Ladakh Himalayas, India. *Journal of the Palaeontological Society of India* 52(2):159-162.
91. **Phartiyal B** & Kotlia BS 2005. A geomagnetic excursion/event at ~20,000-19,000 yrs BP recorded from the palaeolake sediments of Pithoragarh and Champawat districts, (Kumaun Lesser Himalaya) Uttarakhand, India. *Jour. Geological society of India* 66:623-633.
92. **Phartiyal B**, Sharma A, Upadhyay R, Ram-Awatar & Sinha AK 2005. Quaternary geology, tectonics and distribution of palaeo- and present fluvio/glacio lacustrine deposits in Ladakh, NW Indian Himalaya- study based on field observations. *Geomorphology* 65/3-4:241-256. [Doi:10.1016/j.geomorph.2004.09.004](https://doi.org/10.1016/j.geomorph.2004.09.004)
93. **Phartiyal B**, Appel E, Blaha U, Hoffman V and Kotlia BS 2003. Palaeoclimatic significance of magnetic properties from Late Quaternary lacustrine sediments at Pithoragarh, Kumaun Lesser Himalaya, India. *Quaternary International* 108(I): 51-62. [doi.org/10.1016/S1040-6182\(02\)00193-3](https://doi.org/10.1016/S1040-6182(02)00193-3)
94. **Phartiyal B**, Kotlia BS & Sanwal J 2002. Feasibility of Mineral/Environmental magnetic studies in the Late-Quaternary basins of Kumaun Lesser Himalaya – Pithoragarh palaeolake a case study (in) Aspects of Geology and Environment of the Himalaya edited by C. C. Pant and A. K. Sharma, Kumaun University, Nainital, Gyanodaya Prakashan, Nainital, pp.313-328.
95. Kotlia BS, Nakayama K, Bhalla MS, **Phartiyal B**, Kosaka T, Joshi M, Sanwal J & Pandey RN 2001. Lithology and Magnetic stratigraphy of the Lower-Middle Siwalik Successions between Kathgodam and Ranibagh, Kumaun Himalaya. *Jour. Geological Society of India* 58:411-423.
96. Kotlia BS, Nakayama K, **Phartiyal B**, Tanaka S, Bhalla MS, Tokuoka T & Pandey RN 1999. Lithology and Magnetostratigraphy of the Upper Siwalik succession at Ramnagar (Uttar Pradesh), Kumaun Himalaya. In: Radhakrishna, T., Piper, J. D. A. (Eds.), The Indian Subcontinent and Gondwana: A Palaeomagnetic and Rock magnetic Perspective. *Memoir Geological Society of India* 44:209-220.
97. Kotlia BS & **Phartiyal B** 1999. Palaeomagnetic results from the Late Quaternary Lake profiles at Wadda and Riyasi (Pithoragarh) and Phulara (Champawat), Kumaun Himalayas. In: Radhakrishna, T., Piper, J. D. A. (Eds.), The Indian Subcontinent and Gondwana: A Palaeomagnetic and Rock magnetic Perspective. *Memoir Geological Society of India* 44:249-260.

B. Papers presented in Conferences/Workshops

Presented in **46** Conferences in India and abroad

1. XVIth Colloquium of Stratigraphy and Micropalaeontology, **1997**, Goa, India. Pp. 68.
2. 13th Himalayan Karakorum, Tibet Workshop (HKTW), **1998, Peshawar, Pakistan**. Pp. 106.

3. Geology and Natural Environment of Lesser Himalaya; Present Status and Strategies for the next two decades, **2001**, Nainital, India. Pp. 61; 67-69; 115.
4. 89th session of the Indian Science Congress, 3-7 January, **2002** Lucknow University, Lucknow, India
5. Quaternary Climate, Tectonics and Environment of the Himalaya: comparison with other Regions (QUCTEHR-**2002**), Kumaun University, Nainital, India
6. 6th Annual conference on Map India 2003, 28-31 January **2003**, New Delhi
7. National Seminar on Himalayan Orogen-Foreland Interaction, **2003**. Lucknow University, Lucknow. Pp. 72
8. Diamond Jubilee National Conference on “Challenges in Indian Palaeobiology—Current status, Recent Developments and Future Directions” November 15-16, **2005**. Lucknow. Pp. 91; 97; 133.
9. International Conference on Geo-environment-Challenges Ahead, Jammu, 23-25 April, **2007**. Pp. 42.
10. Humboldt Workshop on Global Warming, Nainital, India, 8-10 June, **2007**.
11. XVIIth INQUA, 28 July -3 August, **2007**. **Cairns, Australia**, pp 323
12. Asian Monsoon Variability in Past Global Changes (AMS-PGS), Nainital, India, 11-14 September, **2007** pp. 54-55; 63.
13. XXI Indian Colloquium on Micropaleontology and Stratigraphy, Lucknow. 16-17 November, **2007**. Pp. 130; 150; 182.
14. Presented a paper on the BSIP’s contributions to Antarctic Researches in National Center of Antarctic and Oceanic Research, Goa, 19 February, **2008**
15. National Seminar on Glacial Geomorphology and Palaeoglaciation in Himalaya, Lucknow, 13-14 March, **2008**, pp. 104-105.
16. 23rd Himalayan-Karakoram-Tibet Workshop, Leh (Ladakh), 8-11 August, **2008**, pp. 107; 141.
17. International Symposium on Mountain Building and Climate-Tectonic interaction; 23-25 October, **2008**, Dehradun; Himalayan Geology; 29(3), pp. 11
18. Indo-China International Conference on ‘Biotic and climate change in Indo China region’. 14-15 November, **2008**, Lucknow. Pp. 4.
19. National Conference on Climatic Changes during the Quaternary: Special reference to Polar Regions and Southern Ocean; 22-23 October, **2009**; Goa. Pp. 14-15
20. National Conference on Late Quaternary Geology of the Himalayan Orogen and the Foreland basin; 16-17 February **2011**; Lucknow. Pp. 14-15
21. GGHCR- Geology and geo resources of Himalaya and cratonic belts of India; 10-12 March **2012**. Nainital, UK, India. Pp 23-25
22. 3rd Sino-Indian International Conference: Biodiversity and Environmental Changes in the Himalaya, 18-24 September **2012**, **Xinxiang, China**.
23. One-day Intensive Lecture Series and Interactive Session, 29 October **2012**; Lucknow, India
24. 27th Himalaya-Karakoram-Tibet Workshop (HKT), 28-30 November **2012**, **Kathmandu, Nepal**, pp. 15;148
25. 4th TPE Workshop, 1-3 April, 2013; Dehradun, India
26. 28th Himalaya-Karakoram-Tibet Workshop (HKT) and 6th ISTP, 22-26 August, **2013**, **Tubingen, Germany** (Phartiyal_115)
27. 8th IAG International Conference on Geomorphology, 27-31 August, **2013**, **Paris, France**, S25C-Mountain Geomorphology, 1053pp.
28. Hope **2013**, AvH Kollege, Nainital.
29. National Conference on Recent Development in Plan and Earth Sciences, November 28-29, **2013**, BSIP Lucknow

30. Quaternary Climate Change: New Approaches and Emerging Challenges” 15-16, **2014**, BSIP Lucknow. Pp 89;119
31. 1st GMW and Evaluation meeting, 5-6 Nov, **2015**, SV University, Tirupati
32. International Conference on 3rd NECLIME Asian Meeting, 23-24 February, **2016**, BSIP, Lucknow. Pp 5; 40-41
33. American Geophysical Union (AGU), Fall Meeting, 12-16 December, **2016**, **San Francisco, USA** (GC12-C03)
34. Third Pole Science Summit-TPE-CSTP-HKT Joint Conference, 10-12 July **2017**, **Kunming, China** (No. SII-5) pp 76-77; (No. SII-5) 141-142
35. 9th International Conference on Geomorphology, 6-11 November **2017**, Vigyan Bhawan, New Delhi
36. Interaction Meeting of Indian Quaternary Groups with INQUA Executive Committee; 13 January, **2019**; NIO Goa
37. INQUA 2019, 25-31 July, **2019, Dublin, Ireland**
38. LIMIT-2019, 25-27 September **2019**, AvH Kolleg, Nainital,
39. International Webinar on “Global Climate Change: Evidences, Causes, Effects and Solutions” organized by Botany Department, ECC, University of Allahabad; 5-7 July, **2020**; *Virtual conference*
40. International Conference on ‘Earth’s Changing Climate: Past, Present and Future’ 15-17 October, **2020**; *Virtual conference*
41. 1st Indian Quaternary Congress (IQC-2022) *Virtual mode*
42. Scientific Applications within South Asian Archaeology: An integrative platform for research on reconstruction of the past in India”, 9-11 December, **2022**, Hotel Japfü, Kohima, Nagaland.
43. National Training Workshop Paleoclimate Archives-Proxies and analysis/measurement techniques (NT-PALEO), January **2023**, IITM, Pune,
44. Conference on Geology: Emerging Methods and Applications (GEM-2023) Christ College, Thrissur, Kerala, 23-25 January, **2023**
45. Conference on Emerging insights on human histories and past environments in India. 6-9 June, **2023**, Srinagar, Kashmir
46. XXI INQUA-2023; 14-20 July, **2023, Rome, Italy**
47. STEM-Vigyanshala International & UCOST, Dehradun, Uttarakhand-‘She for STEM’ 10 August, 2024.

M) Other Abstracts Published in Conferences

48. Neogene Climate- 2001, Kharagpur, India
49. 18th HKTW, 2003. Ascona, Switzerland. Pp. 93-94;100; 109; 114-115
50. 20th Convention of Indian Association of Sedimentologist, 2003, HNB University, Srinagar, Garhwal
51. 32nd International Geological Congress, 2004, Florence, Italy. (poster presentation); <file:///E:/abstract\A32IGCWR8T.html>
52. 21st Convention of Indian Association of Sedimentologist, 2004, Annamalai University, Annamalainagar. Pp 28; 189
53. Second Open Science Meeting, PAGES, 10-12 August, 2005, Beijing, China.
54. IAMAS 2005, 2-11 August 2005, Beijing, China.
55. BSS, Palaeoclimate, 25-27 November 2005, Pune. Pp. 54
56. Indian Geological Congress, 14th Convention and National Conference on “Earth Science: its relevance to society, 2-4 December, 2005, Delhi
57. Seminar on Antarctic Science: Indian Contributions in Global Perspectives, National Center for Antarctic and Ocean Research, Goa, 25-26 May, 2006. Pp 72-74

58. National Workshop on Scientific Investigations during XXV IAE. 29-30 June, National Center for Antarctic and Ocean Research, Goa, pp. 44-45.

59. 22nd Himalayan-Karakoram-Tibet Workshop, Hong Kong, 23-25 May, 2007. Pp. 81.

60. Collision Zone Geodynamic Workshop (Geocollision-2007); Wadia Institute of Himalayan Geology, Dehradun, India, 20-21 September, 2007 Himalayan Geology Vol. 28(3), pp. 35-36.

61. 23rd Himalayan-Karakoram-Tibet Workshop, Leh (Ladakh), 8-11 August, 2008, pp. 81.

62. International Symposium on Mountain Building and Climate-Tectonic interaction; 23-25th October, 2008, Dehradun; Himalayan Geology; 29(3), pp. 92.

63. Indo-China International Conference on 'Biotic and climate change in Indo China region'. 14-15 November, 2008, Lucknow. Pp. 3.

64. Conference on Plant Life Through Ages, 16-17 November, 2008, Lucknow, pp. 76.

65. National Conference on Climatic Changes during the Quaternary: Special reference to Polar Regions and Southern Ocean; 22-23 October, 2009; Goa.

66. 3rd Annual Meeting of IGCP, 5-7 January 2012; Kanpur.

67. National seminar on Ground water and Lakes: Recent Advancements and Environmental Aspects, February 20-21, 2014. Nagpur, India

68. 29th Himalaya-Karakoram-Tibet Workshop, Lucca, Italy, 2-4 September, 2014. Journal of Himalayan Earth Sciences (Special Volume) pp 151

69. 30th Himalaya-Karakoram-Tibet Workshop, Dehradun, India, October 6-8, 2014. Pp 14; 20; 26; 41; 67

70. AGU, Fall Meeting, San Francisco, 12-16 December, 2016 (GC12-C05)

71. Astrobiology Science Conference, 24-28 April, 2017. Mesa, Arizona (LPI Contrib. No. 1965). [Paper #3289].

72. ICMS-BHU, Varanasi, 4-6 November, 2019. Pp 97

73. INQUA 2019, Dublin, Ireland, 2019 P-2432.

74. 28th ICMS in Pune from 4-6 May, 2022.

75. Conference Paper Astrobiology Science Conference 2022, Atlanta, Georgia

76. 2nd IQC, 3-6 June 2024; IISER Mohali.

77. 40th Convention of IAS, 2024; BSIP, Lucknow.

Total Abstracts published 114

PhD GUIDANCE

Name of Ph.D. Scholar	Subject	Date of Award/Registration	University	Supervisor(s)	Title of Ph.D. Thesis
1. Debarati Nag	Geology	Awarded in September 2018	Banaras Hindu University, Varanasi	External Supervisor Dr. Binita Phartiyal Internal Supervisor Prof. M. Joshi	Geomorphological architecture and palaeoclimate of the Late Quaternary sequence of Indus catchment (between Gupuk and Batalik), Ladakh.
2. Priyanka Joshi	Geology	Awarded August 2023	Banaras Hindu University, Varanasi	External Supervisor Dr. Binita Phartiyal Internal Supervisor	Geomorphological evolution and the climatic variations in the ChangLa-Tangste Basin, Ladakh Range, Trans Himalaya.

				Prof. M. Joshi	
3.Shirish Verma	Geology	Awarded August 2025	AcSIR	Supervisor Dr. Binita Phartiyal Co- Supervisor Dr. Rakesh Chandra	Sediment Characterization and palaeoclimatic reconstruction of the Karewas, Kashmir Valley, India
4.Ar vind Tewari	Geology	Registration August 2020	AcSIR	Supervisor Dr. Binita Phartiyal	Variability of Indian Summer Monsoon during Late Quaternary in Central Ganga Plain

Post-Doctoral Guidance

Name	Designation	Period	Project Title	Funding agency
1. Debarati Nag	RA	2020-2022	Holocene climate variations in Tethyan and Trans Himalaya with reference to local, regional and global forcings: a multi proxy approach	BSRA, BSIP
2. Priyanka Joshi	Women Scientist	2021-2023	Geomorphological evolution and the climatic variations in the Yaya Tso Basin, Ladakh, Trans Himalaya.	WOS-A, KIRAN Division, DST
3. Debarati Nag	Women Scientist	December 2024 onwards	Magnetostratigraphy and palaeoclimatic significance of the Late Miocene sedimentary sequences in Arunachal Pradesh, eastern Himalaya.	WISE PDF, DST
4. Sarvendra P Singh	Research Associate	April 2025 onwards	Archeomagnetic studies in the Ganga Plain and adjoining regions	BSIP-RA
5. Shravi Agarwal	Women Scientist	October 2025 onwards	Human-Climate interaction during Late Quaternary in Higher Himalaya	WISE PDF, DST

Masters Dissertations/Interns

Name		Department/University	In fulfillment of/for	year	Title of Master's Thesis
1. Anjana Mathew	M.Sc. student	Department of Geology, University of Kerala, Trivandrum , Kerala	Masters dissertation as IASc Summer Research Fellow	2017	Quaternary climate and proxy methods
2. Omer M. Ahmed	M.Sc. student	Department of Geology, University of	Masters dissertation	2017	Rock magnetic characterization of Ultramafics and Gneisses rocks from

(Native of Sudan)		Kerala, Trivandrum , Kerala			Wayanad, Kerala
3.Rupali Sharma	M.Sc. student	HNB Garhwal University, SRTC, Tehri Garhwal , Uttarakhand	Masters dissertation	2018	Mineral and Environmental Magnetic Proxies Implication to Quaternary Climate
4.Deeksha Bora	M.Sc. student	Department of Geology, Kumaun University, Nainital , Uttarakhand	Masters dissertation	2018	Palaeoenvironmental reconstruction using mineral magnetism of Dewar lake
4.Nayan Todariya	M.Sc. student	HNB Garhwal University, SRTC, Tehri Garhwal, Uttarakhand	Masters dissertation	2019	Mineral Magnetic Proxy study of Pashkyum Palaeolake section, Kargil, J&K
5.Zunaid Pradhan, M.Sc, Assam University	M.Sc. student	Department of Geological Sciences, Gauhati University, Jalukbari, Guwahati , Assam	Masters dissertation	2021	Magnetic Characterisation of surface sediments in Central Ganga Plain
6.Sakshi Mishra	M.Sc. student	Department of Energy and Environment, School of Environmental Sciences, Babasaheb Bhimrao Ambedkar University (BBAU), Lucknow	Masters dissertation	2021	Environmental Magnetism- A Proxy for Sediment Characteristics and Paleoclimate Rangdum Section Ladakh
7.Uma Yadav	M.Sc. student	Department of Energy and Environment, School of Environmental Sciences, Lucknow	Masters dissertation	2021	Environmental Magnetism-proxy to study the Palaeoclimate and Quaternary sediments characteristics of Zingral Lake, Ladakh
8. Adhra Renny	M.Sc. student	Andhra University, Vishakhapatnam , AP	Two months laboratory training on proxy analysis for palaeoclimate	2021-2022	Training on the multi proxies used for climate study

9. Pragya Saikia	M.Sc. 1 st year	Department of Geology, Pondicherry University	Three months laboratory training	Feb-April 2022	Use of physical and biotic proxies for defining the sediment characteristics and vegetation of Ganga Plains surface sediments
10. Anu Joseph	M.Sc. student	Department of Geology and geophysics, Cochin University of Science and Technology (CUSAT), Kochi	Masters dissertation	April-June 2022	Mineral Magnetic mapping of the Upper Central Ganga Plain (CGP)
11. Jitheesh Krishnan KV	M.Sc. student	Department of Geology and geophysics, Cochin University of Science and Technology (CUSAT), Kochi	Masters dissertation	April-June 2022	Surface sample study of Lower Central Ganga Plain (CGP)
12. Parvathy EM	M.Sc. student	Department of Geology and geophysics, Cochin University of Science and Technology (CUSAT), Kochi	Masters dissertation	April-June 2022	Mineral magnetic variations in Kanwar lake core, Bihar
13. Sithulya Das KC	M.Sc. student	Department of Geology and geophysics, Cochin University of Science and Technology (CUSAT), Kochi, Kerala	Masters dissertation	April-June 2022	Mineral magnetic variations of Sediment profile in Lucknow, UP
14. Rajshree Biswas	B.Sc. 2 nd year	Department of Geology, MS University Baroda, Varodara	IASc Summer Research Fellow for two months training	May-June 2022	Fluvial geomorphology of the Jhelum River, India
15. Prakarsh Sinha	M.Sc. student	Amity Institute of Biotechnology, Amity University, Mumbai	Masters dissertation	July-August 2022	Applications of Rock magnetism and Scanning Electron Microscopic analysis of the Geological Samples: Implications to Mars Analogue studies
16. Rujal Pachichigar	M.Sc. student	Department of Geology, K J Somaiya College, Mumbai	Masters dissertation	November 2022-April 2023	Paleoclimatic Reconstruction of the Kanwar Wetland Core, Begusarai, Bihar, India

17. Heet Joshi	M.Sc. student	Department of Geology, K J Somaiya College, Mumbai	Masters dissertation	November 2022- April 2023	Environmental Magnetism: A study of Heerpur formation, Karewa basin, Jammu & Kashmir, India
18. Puspanjali Nayak	M.Sc. student	Geology Department, Central University of Tamil Nadu, Thiruvarur	Masters dissertation	January- May 2023	Mineral Magnetic studies of the downcore section in the Central Ganga Plain: Implication to Late Quaternary palaeoclimate
19. Susmita Nayak	M.Sc. student	Geology Department, Central University of Tamil Nadu , Thiruvarur	Masters dissertation	January- May 2023	Mineral Magnetic mapping of the Central Ganga plain
20. Liya T. Thomas	M.Sc. student	Department of Marine Geology and Geophysics, Cochin University of Science and Technology (CUSAT), Kochi, Kerala	Masters dissertation	January- May 2023	Analogue site for Mars: Karewa-Understanding the morphology and climatic setup of Raithan Formation
21. S Rajalakshmi	M.Sc. 1 student	IIT-Bhubaneswar, Orissa	Masters dissertation	May-July 2023	Report on mineral magnetic characterization of lake sediments from Bakhira tal, central Ganga plain: Implication to palaeoclimate
22. Shubham Yadav	M.Sc. student	Department of Geology, Lucknow University, Lucknow, UP	Masters dissertation	December 2022- May 2023	Environmental Magnetic variation in Lahuradewa Lake Site :Implication to Quaternary Climate
23 Siddharth Pratap Singh	M.Sc. student	BBAU, Lucknow	Masters dissertation	January 2024 onwards	Mineral magnetic mapping of the interfluves between Ghaghra and Ganga Rivers, Central Ganga Plain, India
24 Xavier Thomas	M.Sc. student	SAS SNDP Yogam College, Konni, Kerala	Masters dissertation	February April 2024	Environmental Magnetic variation in Dhobia Tal lake site of Bhandavgarh, MP
25 Sona S	M.Sc. student	SAS SNDP Yogam College, Konni, Kerala	Masters dissertation	February April 2024	Environmental Magnetic variation in the sediment core of Chakradhara meadow, MP
26 Saumya Pathak	M.Sc. student	Department of Environmental Studies, Lucknow University	Masters dissertation	April – July 2024	Magnetic analysis of surface sediment samples from western Vidarbha (Maharashtra)
27Garvit Sahai	B.Sc. I student	Department of Botany, Lucknow University	Two months Training	April – July 2024	Environmental Magnetism of Sasoma, Ladakh and Pollen Analysis of Dhobia Tal, Bandhavgar, Madhya Pradesh
28	B.Sc.	IISER, Bhopal	One month	July-	Applications of

Vishesh Vanjani	III student		Training	August 2024	geomorphology in the analogue studies: Ladakh an example
29 Lazi Bhutiya	M.Sc. student	AMITY, Mumbai	One month Training	July-August 2024	Relevance/Significance/Importance of Tsokar and Tso Moriri regions of Ladakh in Analogue studies
30 Mr. Ajith Kumar. K	PhD	Periyar University (PG extension center), Dharmapuri, Tamil Nadu Under the supervision of Dr. Vidyasakar Anburaj	Three Months	January – April 2025	How the Indian monsoon precipitation changed over the last 10,000 years in the Sandynallah valley and the Parson Valley, Western Ghats, Southern India
30. Himanshu Rana	B.Sc.(Hons) Geology (4th Sem.)	Department of Geology Babasaheb Bhimrao Ambedkar University, Lucknow	One month Internship	June 2025	Rock Magnetism: Applications of Magnetic susceptibility
31. Ziya Shekh	B.Sc.(Hons) Geology (4th Sem.)	Department of Geology Babasaheb Bhimrao Ambedkar University, Lucknow	One month Internship	June 2025	Magnetic susceptibility as a proxy tool to decode lithological changes
32. Priya Verma	B.Sc.(Hons) Geology (4th Sem.)	Department of Geology Babasaheb Bhimrao Ambedkar University, Lucknow	One month Internship	June 2025	Introduction to magnetic susceptibility and it's application in geology

Invited Talks / Lectures / Seminars

Title of Talk	Date	Organization / Event
Quaternary Geology	5 June 2014	GSI, Lucknow
Palaeolakes in Ladakh in reference to Quaternary climate	14 October 2014	ITPCAS, Beijing
Poles (Antarctic, Arctic, Third Pole) - Scientific Scope, Opportunities and Challenges	23 August 2015	Swayam Siddha, Lucknow
Antarctica - the Frozen Continent: Scientific Scope, Challenges and Opportunities	22 October 2016	Rotary Club of Greater, Lucknow
3 Lectures on Quaternary Geology, Palaeomagnetism,	16 February 2018	Department of Geology, Lucknow University

and Environmental Magnetism		
Quaternary palaeoclimate studies in India - a global context	12 January 2019	INQUA-EC Meeting, NIO, Goa
Earth Science Opportunities in the Three Poles	18 October 2019	India International Science Festival, ARI Pune
Quaternary Landscape Evolution in Ladakh	19 October 2019	Savitribai Phule Pune University, Pune
Cold Arid Deserts: Scientific Scope and Challenges	23 December 2019	Refreshers Course, Lucknow University
Let's Explore Our Poles (Virtual)	16 April 2020	TI Matriculation Higher Secondary School, Chennai
Ladakh: Landscape and Climate Variations (Virtual)	5-7 July 2020	International Webinar, Allahabad University
Ladakh as Analogue of Mars	28 July 2020	PRL, Ahmedabad (Virtual)
Ladakh as Analogue of Mars (Virtual)	23 October 2020	Amity University, Mumbai
Atmospheric and Cryospheric Interactions	9 December 2020	BSIP & AcSIR
Palaeomagnetism: An Introduction	2020	BSIP & AcSIR
Women in Field Science	8 March 2021	Botany Dept., Lucknow University
Quaternary Geology and Climate of Ladakh	1 June 2021	GSI Training, Nagpur
Landscape Evolution in Ladakh	23-25 January 2023	GEM-2023, Christ College, Kerala
Late Quaternary Climate in Ladakh	8 February 2023	Monsoon Lecture Series, LSU USA (Virtual)
Climate and Neotectonics in Ladakh	24 February 2023	UDAN Lecture Series, IIT Roorkee (Virtual)
Decoding Palaeoclimate via Magnetic Proxies	22 March 2023	LEM-ISS 2023 (Virtual)
Hydroclimate of Ladakh (Past 10,000 Years)	1 April 2023	Workshop, Ladakh University
Cryosphere and Plastic Pollution	5 June 2023	CBMR, Lucknow
Geology in Planetary Science	8 October 2023	AADYA World Space Week
Ladakh as Martian Analogue	31 August 2024	IISc Bangalore (Virtual)
Red Planet in the Himalayas	1 September 2024	AMASE-2024, Amity University (Virtual)
Geobiology & Karewa Basin	24 September	NIOT, Chennai (Virtual)

2024		
Antarctica: Scope and Climate	23 October 2024	Govt. College, Mejia, WB (Virtual)
Climate Records from Bandhavgarh	22 November 2024	Ashoka University Workshop
Proxies in Paleoclimate reconstruction: A few research examples	September 30, 2025	"School on Geochronology Techniques" workshop at Inter-University Accelerator Centre (IUAC), New Delhi
Invited lecture during the International Conference "Unearthing the Past, Shaping the Future: 175 Years of GSI"	November 20-21, 2025	Geological Survey of India
Pre-INQUA "National Workshop on Recent Developments in Quaternary Studies, Focus on N.E. India" and "National Hands-on Training on Quaternary Microfossils"	November 24-28, 2025	Department of Geological Sciences, Gauhati University

Karmyogi

Karmyogi Bharat Competency Courses and webinars Completed (June-Dec 2024)

September 29, 2024; **How to lead a healthy Life**, by Sashatra Sema Bal (SSB)

October 5, 2024; **Code of Conduct for Government Employees**, by, Institute of Secretariat Training and Management (ISTM)

October 5, 2024; **Etiquette**, by Department of Posts

October 5, 2024; **Prevention of Sexual Harassment at Workplace**, by ISTM

October 5, 2024; **Right to Information (RTI)**, by BSNL

October 6, 2024; **Self Leadership**, by Art of Living

October 6, 2024; **Central Government Employees Group Insurance Scheme (CGEGIS)**, by ISTM

October 6, 2024; **Smartphone Security**, by SSB

October 6, 2024; **Orientation Module on LiFE**, by Ministry of Environment, Forest, and Climate Change

October 6, 2024; **Training Module on Swatchata he Seva Hai**, Ministry of Housing and Urban Affairs (MoHUA)

October 6, 2024; **AI Using Google Bard and ChatGPT for Beginners**, by Invest India

October 16, 2024; **Introduction to Emerging Technologies**, by Capacity Building Commission

October 16, 2024; **Safety in CyberSpace**, by Indian Cybercrime Coordination Centre 14C

October 17, 2024; **Yoga Break at Workplace**, by Morarji Desai Institute of Yoga (MDNIY)

October 20, 2024; **Data Driven Decision Making for Government**, by Capacity Building Commission

October 20, 2024; **Stress Management**, by Indian Institute of Public Administration

October 22, 2024; **Emergency procedures as part of Disaster Management Plan Module 3**, by National Thermal Power Corporation (NTPC) Limited

Karmyogi Bharat Competency Courses and webinars Completed (Jan-July 2025)

March 26, 2025; **Bridging the Trust Deficit: Conflict Resolution as a Governance Tool**, by Karmayogi Bharat (Webinar)

May 11, 2025; **Positioning India as a Global Technology Leader: From 5G Leadership to Future Ready Innovation Ecosystems**, by Karmayogi Bharat (Webinar)

May 11, 2025; **Filling of APAR and AIPR through SPARROW**, by National Institution of Communication Finance

May 11, 2025; **Leadership**, by DOPT (Functional)

June 13, 2025; **ChatGPT and Generative AI Tools for government Officials**, by Wadhwani Foundation (Domain)

June 18 2025; **Time Management**, by ISTM (Behavioural)

June 18 2925; **Increase your Emotional Quotient**, by Art of Living (Behavioural)

June 18, 2025; **Getting along with your Boss**, by ISTM

July, 07, 2025; **An Introduction to Science Communication**, by CBC (Functional)

July 08, 2025; **Project Management**, by IIPA (Functional)

July 14, 2025; **Right to Information (RTI)**, by DOPT (Functional)

Karmyogi Bharat Competency Courses and webinars Completed (July-Sep, 2025)

October 20, 2024; **Stress Management**, by IIPA (Behavioral)

August, 27, 2025; **Gen AI: Enhancing Public Sector Efficiency**, by National EGovernance MeitY, Govt of India (Domain)

September 17, 2025; **Problem Solving and Decision Making**, by DOPT (Behavioral)

September 17, 2025; **Justice, Integrity, and Public Service: A Woman Officers Journey Through Indian Policing**; Karmayogi Bharat

Karmyogi Bharat Competency Courses and webinars Completed (Oct-Dec, 2025)

May 11, 2025; **Basics of Climate Change: Science Behind Stories**, by IIPA (Domain); **APAR** by ISTM (Functional)

September 17, 2025; **Do's and Don'ts for Government Employees**, by ISTM (Behavioral)

September 17, 2025; **The Great Geological journey: Earth's story**

through time provided by the Geological Survey of India (GSI)

October 28, 2025; **Vigilance Clearance**, ISTM during Vigilance Awareness Week (VAW)

October 28, 2025; **Vigilance Angle**, DHTI, during VAW 2025

October 28, 2025; **Dos and Don'ts of Social Media**, Indian Institute of Mass Communication (IIMC), during VAW 2025

October 28, 2025; **AI ethics for governance**, Wadhwani Foundation

October 29, 2025; **Conduct Rules**, ISTM during VAW 2025

October 29, 2025; **Cyber Vigilance: What Every Digital Citizen Must Know**, National E-Governance Division (NEGD) MeitY Govt of India during VAW 2025

30, October, 2025; **Preventive Vigilance**, Ministry of Steel during VAW 2025

30, October, 2025; **Formulation of Public Policies**, by ISTM (Functional)

04 December 2024; **Team Building**, by DOPT (Functional)

04 December 2024; **Conflict Resolution & Negotiation**, by DOPT (Behavioral)

Teaching Experience

1. PhD Coursework Instruction at BSIP & AcSIR (2014 to 2024)

Taught as part of pre-PhD and AcSIR coursework for doctoral students registered at BSIP.

Course modules covered:

- *Geology as a Field Science: Introduction & Basic Concepts*
- *Geomorphology and Landscape Evolution*
- *Magnetostratigraphy and Environmental Magnetism*
- *Research Methodology (AcSIR Module 1(a): 66-1D-004)*
- *Earth System Science; Atmosphere and Cryosphere; Global Warming*
- *Research Problem Identification and Design*
- *Earth System History; Palaeomagnetism*

2. Kumaun University, Department of Geology (2017, 2018, 2019)

Delivered MSc Final Semester lecture series on:

- *Quaternary Geology and Paleoclimatology*
- *Glacial and Interglacial Cycles; Marine Isotopic Stages*
- *Magnetostratigraphy and Biostratigraphy*
- *Quaternary Dating Methods*
- *Glacial, Coastal, and Fluvial Landscapes*

3. CAS Programme, Department of Geology, Lucknow University (Feb 2018)

Topics taught under UGC's CAS program included:

- *Quaternary Palaeoclimate: Archives and Proxies*
- *Major Climatic Variations in the Quaternary*
- *Palaeomagnetism: Techniques and Applications*

4. Amity University, Mumbai (Dec 2023)

Master's Course in Astrobiology and Space Sciences

- Delivered module on *Geomorphology and Landscape Evolution*

5. B.Sc. Certificate Course – Kabi Jagadram Roy Government College, Bankura, WB (Oct 2024)

Online lecture series on Antarctica (Dept. of Geology):

- *Scientific Scope, Challenges and Opportunities in Antarctica*
- *Landscape Evolution and Holocene Climate Variations in Schirmacher Oasis, East Antarctica*

6. Guest Lecture – Ashoka University, Sonipat, Haryana (Nov 2024)

- Delivered a session on *Geoarchaeology* for Department of History coursework (22nd November 2024)

Editorial Contributions – Journal of Palaeosciences (JPS)

Editor (2020–Present)

Responsible for conceptualizing, curating, and publishing the following volumes of JPS:

- **Platinum Jubilee Special Volume – Palaeosciences: Horizons Crossed and Beyond**
- **Vol. 70 No. 1–2 (2021)**
- **Vol. 71 No. 1, No. 2 (2022)**
- **Vol. 72 No. 1, No. 2 (2023)**
- **Vol. 73 No. 1 (2024)**
- **Vol. 74 No. 2 (2024)**
- **Vol. 75 No. 1 (2025)**
- **Vol. 75 No. 2 (2025)**

Outreach Activities

Outreach activities through Association of Quaternary Researchers (AOQR)

Founder Member & Secretary (Since 2019)

AOQR was established on 12 December 2019 under the Societies Act, 1860, with its headquarters at the Birbal Sahni Institute of Palaeosciences (BSIP), Lucknow. The association is dedicated to advancing Quaternary research in India and the subcontinent, fostering interdisciplinary collaboration, capacity building, and international engagement.

Major Initiatives and Contributions:

- **Founding & Leadership:**
 - Instrumental in founding AOQR and serving as Secretary since inception.
 - Regularly organized governing body meetings since 2019 aligned with solstices and equinoxes.
- **Webinars & Scientific Engagements:**
 - **ECR Webinar Series (2020):** Led a six-lecture international webinar series on *Emerging Areas of Research in Quaternary Science* with 250+ attendees from over 10 countries.
 - **AOQR-INQUA ECR Interaction (2020):** Facilitated discussions on global opportunities and scientific communication for early-career researchers.
 - **Bimonthly 'Legends Talks' (2021):** Featured eminent scientists like Prof. Martin Williams and Prof. Victor Baker.
- **Workshops & Training Programs:**
 -
 -
 - collaboration with BSIP; attended by 60+ participants.
 - **National Quiz on Geoarchaeology (2021):** Raised awareness among UG/PG/PhD students on human-environment interactions.
 - **Student Colloquium (2021):** Encouraged peer review and mentorship by combining early-career scholars with senior experts.
 - **NT-PALEO (2023):** Co-led a national training workshop in collaboration with IITM and MoES; attended by participants from BIMSTEC nations.
- **Major Conferences:**
 - **Indian Quaternary Congress (IQC):**
 - - **IQC-2022:** Convened the inaugural congress with 250+ participants and 90+ presentations.
 - **IQC-2024:** Helped organize the second national congress in IISER-Mohali.
 - **INQUA Congress Bid (2023):** Successfully led India's bid at the INQUA Congress in Rome to host the XXII INQUA Congress in Lucknow (2027).
- **Foundation Day Events:**
 - Organized annual Foundation Day programs featuring prominent speakers from INQUA, INSA, PAGES, etc. (2020 to 2024).
- **Publications & Media:**
 - **Quaternary Chronicles:** Guiding voice/Editor and contributor to AOQR's quarterly newsletter since 2019.
(Volumes published: 7 Volumes, 18 Issues as of August 2025)

AOQR Newsletter- Quaternary Chronicles (<https://www.aoqr.org/web/publication>)

Quaternary Chronicles-a quarterly newsletter published online by AOQR on-

August 2019 (Volume 1(1))

December 2019 (Volume 1(2))

April 2020 (Volume 2(1))

August 2020 (Volume 2(2))

December 2020 (Volume 2(3))

April 2021 (Volume 3(1))
August 2021 (Volume 3(2))
December 2021 (Volume 3(3))
April 2022 (Volume 4(1))
August 2022 (Volume 4(2))
December 2022 (Volume 4(3))
April 2023 (Volume 5(1))
August 2023 (Volume 5(2))
December 2023 (Volume 5(3))
April 2024 (Volume 6(1))
August 2024 (Volume 6(2))
December 2024 (Volume 6(3))
April 2025 (Volume 7(1))
August 2025 (Volume 7(2))
December 2025 (Volume 7(3))

A composite image featuring the 'Qc' logo in a stylized blue font on the left, a black and white portrait of a man in the center, and the 'Quaternary Chronicles' logo with the subtitle 'Happening in the Sub-continent' on the right. The logo includes a small globe icon and the text 'Volume 10, No. 3 December 2012'.

April 2024 (Volume 6(1))

August 2024 (Volume 6(2))

December2024(Volume
6(3))

April 2025 (Volume 7(1))

August 2025 (Volume7(2))

December2025(Volume7(3))

■ INQUA India 2027 Podcasts



INQUA 2027 India

By inqua2027india

Quaternary is the age when modern recognisable humans started inhabiting this planet. All over the world scientists are engaged in studying various aspects of human evolution. Once every 4 years scientists from all across the Globe gather at one place and exchange their research, discoveries and views. In 2027 Lucknow (India) has the honour of hosting this...

[See more](#)

 Listen on Spotify

[f](#) [o](#) [X](#) [globe](#)

<https://www.youtube.com/@INQUAIndia2027>



OTHER OUTREACH ACTIVITIES

- **Live History India (LHI) Features**
 - *Documentary Appearance (Sep 2021)*: Featured in “**Ladakh: A Link of Past and Future**” on LHI’s YouTube platform, discussing the geology and environmental history of Ladakh.
[Watch here](#) | [LHI Project Page](#)
 - *Interview (Dec 2021)*: Interviewed by journalist Mini Menon for the LHI documentary “*The Story of Ladakh: A Rare Journey*”, aired January 2022.
- **Public Science Outreach at Schools**
 - *Govt. School Outreach (March 2022)*: Conducted an educational session at Uchya Madhyamik Vidyalaya, Majhlaul-3 (Bihar), introducing students (classes 7–10) to fossils, rocks, and climate science. Also addressed plastic waste awareness.
 - *Media Engagement*: Interviewed by *Bihar ki Aawaz* on the same outreach efforts.
[YouTube link](#) | [Facebook post](#)
- **Science Communication through Media**
 - *TV9 Drishyām (July 2023)*: Participated in a special episode on Ladakh’s “Moonland” (Lamayuru) geology with Akshay Shukla.
[Watch here](#)



- *Vanitha Hindi Magazine (Sep 2023)*: Featured in an article highlighting women scientists: "महिला साइंस्ट्स: बड़ी चुनौतियां, नयी उम्मीदें".
- **Online Talks & Webinars**
 - *Three Poles and Mars Webinar Series*:
 - "Terrestrial Analogues of Mars" – [Watch](#)
 - "Late Quaternary Hydroclimatic Variations in Ladakh" – [Watch](#)
 - Additional talks:
[Link 1](#), [Link 2](#), [Link 3](#)
- **Event Organization & Convening**
 - *AOQR Foundation Function (Dec 12, 2021)*: Organized a talk by Prof. Phillip Gibbard (USA).
 - *Indian Quaternary Congress (Jan 2022)*: Convened and organized the 1st IQC (virtual), attended by 250+ participants.

Binita Phartiyal
December 2025