

CURRICULUM-VITAE

	Address Birbal Sahni Institute of Palaeosciences, Lucknow	DR. BRIJESH KUMAR PhD in Geology (Paleoceanography) DST- Birbal Sahni Institute of Palaeosciences Academy of Scientific and Innovative Research Supervisor: Dr. Pawan Govil Thesis title “Late Quaternary oceanographic variations from the Equatorial Indian Ocean: emphasis on ocean circulations and calcareous productivity”
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RESEARCH INTERESTS

Micropaleontology, Oceanography, Paleoclimatology, Sedimentology, Isotope Geochemistry, Tropical Indian Ocean Paleoceanography, Climate Teleconnections.

My research focuses on reconstructing zonal and meridional ocean circulation, with a particular emphasis on how these patterns influence Indian monsoon variability during the Late Quaternary. I utilize planktic foraminiferal assemblages and geochemical proxies ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$) to investigate changes in the mixed layer and thermocline structure, variations in oceanic productivity, and their connections to major climate drivers such as the Indian Ocean Dipole (IOD) and El Niño-Southern Oscillation (ENSO). This work aims to enhance our understanding of tropical ocean-atmosphere interactions and their role in past climate variability

EDUCATION:

Degree	Year	Institution	Performance
Ph.D. in Geology (Paleoceanography)	2025	AcSIR (BSIP, Lucknow)	Awarded
M.Sc. in Applied Geology	2017	University of Allahabad	65.7%
B.Sc. (Physics, Mathematics, Geology)	2015	University of Lucknow	57.1%
Intermediate (PCM)	2012	U.P. Board	69%
High School	2010	U.P. Board	70%

RESEARCH SKILLS

- Stable isotope analysis using IRMS (MAT253 / MAT253 Plus)
 - Micropaleontological techniques for planktic foraminifera identification
 - Sediment sample processing, wet-sieving, and microfossil picking
 - Paleoceanographic data interpretation and age model construction
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AWARDS & ACHIEVEMENTS

- **CSIR-UGC JRF (AIR-4)** – Qualified for lectureship and JRF (June 2018)
 - Shortlisted for the **Dr. Shyama Prasad Mukherjee Fellowship**- Based on top rank in the CSIR-NET JRF merit list (2019)
 - **GATE Qualified** – Earth Sciences (2019 & 2021)
 - **CSIR-UGC SRF Award** – For outstanding Ph.D. performance (2022)
 - **National Quiz (AIR-5)** – Geoarchaeology (AOQR), May 2021
 - **Best Hindi Lecture Award**- Delivered a lecture titled “*भारतीय मानसून परिवर्तनशीलता और प्रभावित करने वाले कारक*,” awarded by the Director of BSIP, Lucknow (2023)
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COMPUTER & SOFTWARE SKILLS

- Programming: C/C++
 - Data Analysis: Microsoft Office, Origin, Grapher, Ocean Data View (ODV)
 - Graphics & Visualization: Adobe Photoshop, CorelDRAW
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PUBLICATIONS

- ❖ **Kumar, Brijesh**, Pawan Govil, Shailesh Agrawal, Pankaj Kumar, Divya Verma, and Hidayatullah Khan. “Western equatorial Indian Ocean surface hydrographic variations inferred from isotopic record of planktic foraminifera *Globigerinoides ruber* during last~ 412,000 years.” (2025) *Journal of Earth System Science* 134, no. 1: 58. (IF: 1.7).
- ❖ **Kumar, Brijesh**, Pawan Govil *, Divya Verma, and Hidayatullah Khan “An Appraisal of Indian Ocean Dipole variability and its linkage with ENSO: Future perspective” (2023) *Journal of Environmental Biology* 46(5):625-634 (IF: 0.7).
- ❖ Govil, Pawan*, Abhijit Mazumder, Shailesh Agrawal, Syed Azharuddin, Ravi Mishra, Hidayatullah Khan, **Brijesh Kumar**, Divya Verma “Abrupt changes in the southwest monsoon during Mid-Late Holocene in the western Bay of Bengal” (2022) *Journal of Asian Earth Sciences* 227 (2022): 105100 (IF: 2.7).

- ❖ Khan, Hidayatullah, Pawan Govil*, Rajani Panchang, Shailesh Agrawal, Pankaj Kumar, **Brijesh Kumar**, Divya Verma “Surface and thermocline Ocean circulation intensity changes in the western Arabian Sea during ~172 kyr” (2023) *Quaternary Science Reviews* 311 (2023): 108133 (IF: 3.2).
- ❖ Verma, Divya, Pawan Govil*, **Brijesh Kumar**, Hidayatullah Khan “Variation in dynamics controls and effects of Agulhas leakage through Late Pleistocene: A Review” (2023) *Journal of Palaeosciences* 72, no. 1. 43-54.
- ❖ Verma, Divya, Govil Pawan*, Agrawal Shailesh, Morthekai P, **Kumar Brijesh**, and Khan Hidayatullah “Late Quaternary productivity and hydrographic variability in the upper water column of the Agulhas Return Current region as inferred from planktic foraminifera. *Quaternary International*” 740 (2025):109894 (IF:1.8)
- ❖ Khan, Hidayatullah, Pawan Govil*, Rajani Panchang, Shailesh Agrawal, Pankaj Kumar, **Brijesh Kumar**, Divya Verma “Abrupt intensification of AMOC and monsoonal winds during mid-MIS4 (Heinrich Event 6) in the western Arabian Sea” (2024) *Global and Planetary Change*, 235, p.104398 (IF: 4.0).
- ❖ **Kumar, Brijesh**, Pawan Govil *, Shailesh Agrawal, Pankaj Kumar, Divya Verma, and Hidayatullah Khan “Indian Ocean zonal circulation induced changes in upper water column structure in the western equatorial Indian Ocean over the past ~412 ka.” (2024) *Paleoceanography and Paleoclimatology AGU* (IF: 3.2) (In revision).
- ❖ **Kumar, Brijesh**, Pawan Govil *, Shailesh Agrawal, Pankaj Kumar, Divya Verma, and Hidayatullah Khan “Surface productivity and density gradients across the eastern and western equatorial Indian Ocean: Implications for Indian monsoon dynamics and climate variability” (2025) *Palaeogeography, Palaeoclimatology, Palaeoecology* (IF:2.7) (Under review).

CONFERENCE PAPERS

- ❖ **Brijesh Kumar*** and Pawan Govil * “A review and preliminary study on Indian Ocean dipole variability and its impact” (19-21 January, 2022) (**Poster Presentation**) AOQR.
- ❖ **Brijesh Kumar*** and Pawan Govil * “The Indian Ocean Dipole variability in the western equatorial Indian Ocean: Evidence from the planktic foraminiferal record” (4-

6 May 2022) ICMS Pune (**Poster Presentation**).

- ❖ **Brijesh Kumar*** and Pawan Govil * “Long-term variability in the mixed layer and thermocline in the Equatorial Eastern Indian Ocean: Influence of wind and ocean circulation” (17-19 October 2024) ICMS Delhi (**Oral Presentation**).
 - ❖ **Brijesh Kumar*** and Pawan Govil * “Abrupt changes in the Western Equatorial Indian Ocean subsurface hydrography (thermocline) during the MIS 10 and MIS 8” (11-13 December 2024) IAS BSIP, Lucknow (**Oral Presentation**).
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WORKSHOPS AND CONFERENCES ATTENDED:

- ❖ **Brijesh Kumar** attended a three-day workshop on “National Workshop on Chronological Systematics and their applications in Earth Sciences” organized by Geochronology Group, IUAC, from April 19-21, 2022, on the Webex online platform
- ❖ **Brijesh Kumar** attended a three-day workshop on “River Rejuvenation, Climate Resilience and DRR: Plans, Perspectives and Policies” jointly organized by the Department of Geology, BBAU, Lucknow, and NIDM, New Delhi, during October 17-21, 2022.
- ❖ **Brijesh Kumar** attended a three-day conference on “XXVII (27th) Indian Colloquium on Micropaleontology and Stratigraphy” organized by the Department of Geology, BHU, Varanasi from November 04-06, 2019 (Attended).
- ❖ **Brijesh Kumar** attended a One-day Workshop on "Ground Water prospect of Palaeochannels," organized by Central Ground Water Board (CGWB), State Unit Office, Allahabad, Ministry of Water Resources, River Development and Ganga Rejuvenation, Govt. of India, on October 6, 2015.
- ❖ **Brijesh Kumar** attended seven days of coursework on "Ore Genesis and Mineral Exploration," conducted by the Department of Earth and Planetary Sciences, University of Allahabad, Allahabad, from November 3 to 9, 2015.

Brijesh Kumar

References

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