

**Birbal Sahni Institute of Palaeosciences**  
**Monthly summary on Research Activities**  
**(October, 2021)**

**1. Areas of Focus:**

The institute carries out research on fundamental as well as applied aspects of Palaeosciences that includes Evolutionary history of biota, Paleoclimate, studies of past civilization, Human history and contemporary Climate Change issues, following an integrated and multi-disciplinary approach.

Key research activities under following objectives:

- Understanding origin and evolution of life through time and space.
- Understanding climate change in recent and deep geological times.
- Understanding past civilization and human history.
- Application of Palaeosciences in exploration of fossil fuel and coal industry.

**2. Important Highlights of Major Research Programmes**

**a. Lecture series on the occasion of Platinum jubilee celebration of the Institute**

The second lecture in the lecture series on the occasion of Platinum jubilee celebration (*AzadikaAmrutMahotsava*) of the Institute was delivered Prof. ArunabhGhosh, Harvard University on “Birbal Sahni and Hsu Jen - connected histories of science across India and China” on October 8, 2021.

**b. Poster competition on the theme ‘Earth and Environment Aspect’ for College and School students (Sept 20 – Oct 20, 2021):**

Poster making competition was organized on the broader theme of Earth and Environment aspect on the occasion of *AzadikaAmrutMahotsava* and Platinum Jubilee Celebrations of BSIP. More than eighty (80) students from schools and colleges participated the poster making competition and submitted their entries.

**c. Quiz competition on the occasion of the Platinum Jubilee celebration and AzadikaAmritMahotsav**

A quiz competition was organized on the occasion on Platinum Jubilee celebration and *AzadikaAmritMahotsava* for the staff members of the Institute on September, 21, 2021.

**List of research publications (October, 2021)**

1. **Ansari, A.H., Singh, V.K., Sharma, M., Kumar, K.** (2021). High authigenic Co enrichment in the non-euxinic buff-grey and black shale of the Chandarpur Group, Chhattisgarh Supergroup: Implication for the late Mesoproterozoic shallow marine redox condition. *Terra Nova*. DOI: 10.1111/ter.12564(**Impact factor: 3.037**).

2. **Singh, A.K.,**Chakraborty, P.P., (2021) Geochemistry and hydrocarbon source rock potential of shales from the Palaeo-Mesoproterozoic Vindhyan Supergroup, Central India. Energy Geoscience. DOI: 10.1016/j.engeos.2021.10.007.
3. **Singh, V.P.,** Singh, B.D., **Mathews, R.P.,** Mendhe, V.A., **Agnihotri, P.,** Mishra, S., Radhwani, M., Dutta, S., Subramanian, K.A., Singh, A., **Singh, H.** (2021). Petrographical-geochemical characteristics and floral-faunal compositions of the Valia lignite deposits from Cambay Basin (Gujarat), western India. International Journal of Coal Geology. Article no. 103866. DOI.: 10.1016/j.coal.2021.103866(**Impact factor: 6.806**).
4. **Basumatary, S.K.,** **Tripathi, S.** (2021). Is bat guano a potential pollen trap? A comparative assessment from conventional soil and moss substrates from Eraaning Cave of Meghalaya, India. Review of Palaeobotany and Palynology 295. Article no. 104539. DOI.: 10.1016/j.revpalbo.2021.104539(**Impact factor: 1.94**).
5. Naskar, M., **Ghosh, R.,** Das, S., Paruya, D.K., Saradar, B., Yadava, M.G., Bera, S. (2021). Grass phytoliths in surface sediments of the Sunderbans, India and their implications in reconstructing past deltaic environmental changes. The Holocene. DOI.: 10.1177/09596836211041736(**Impact factor: 2.769**).
6. Jeelani, G., Shah, R.A., Deshpande, R.D., Dimri, A.P., Mal, S., **Sharma, A.** (2021). Isotopic analysis to quantify the role of Indian Monsoon on water resources of selected river basins in the Himalayas. Hydrological Processes. DOI.: 10.1002/hyp.14406(**Impact factor: 3.565**).
7. **Shah, S.K.,** **Mehrotra, N.,** Gaire, N.P., **Thomte, L.,** Sharma, B., Pandey, U., Katel, O. (2021). Potential utility of Himalayan tree-ring  $\delta^{18}\text{O}$  to reveal spatial patterns of past drought variability – It's assessments and implications. In Kumaran, K.P.N., Padmalal, D. (Eds): Holocene Climate Change and Environment, Elsevier. 265–292. DOI.: 10.1016/B978-0-323-90085-0.00003-6.
8. **Quamar, F.**(2021). Holocene vegetation and climate change from central India: An updated and a detailed pollen-based review. In Kumaran, K.P.N., Padmalal, D. (Eds): Holocene Climate Change and Environment, Elsevier. 129–162. DOI.: 10.1016/B978-0-323-90085-0.00013-9.
9. **Phartiyal, B.,** **Nag, D.,** **Joshi, P.** (2021). Holocene climatic record of Ladakh, Trans-Himalaya. In Kumaran, K.P.N., Padmalal, D. (Eds): Holocene Climate Change and Environment, Elsevier. 61-88. DOI.: 10.1016/B978-0-323-90085-0.00023-1.
10. **Singh, V.,** **Misra, K.G.,** **Yadava, A.K.,** Yadav, R.R. (2021). Application of tree rings in understanding long-term variability in river discharge of high Himalayas, India. In Kumaran, K.P.N., Padmalal, D. (Eds): Holocene Climate Change and Environment, Elsevier. 247–263. DOI.: 10.1016/B978-0-323-90085-0.00018-8.

11. **Trivedi A.**(2021). Holocene vegetation, climate, and culture in Northeast India: A pollen data–based review. In Kumaran, K.P.N., Padmalal, D. (Eds): Holocene Climate Change and Environment, Elsevier. 611–627. DOI.: 10.1016/B978-0-323-90085-0.00019-X.

**Photographs showing important highlights of major programs/research activities organized during October, 2021:**

