

**Birbal Sahni Institute of Palaeosciences**  
**Monthly summary on Research Activities**  
**(September, 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. Governing Body (GB) Meeting (27 Aug 2021)**

Governing body meeting of BSIP was held in the august presence of our Chairman, Prof. NitinKarmalkar, VC, Pune University, and other Governing body members on 27 Aug 2021 at institute campus. A range of scientific, administrative and financial matters were discussed.

**b. Hindi fortnight (Pakhwada) during September 1–14, 2021)**

The institute celebrated Hindi fortnight from September 1–14, 2021. The event was inaugurated by the Director DrVandana Prasad. Prof. Rakesh Chandra, University of Lucknow, Lucknow delivered a lecture on “नई शिक्षा नीति” (New education policy) on September 1, 2021. During this period, various competitions like Hindi typing (computer), debate, noting, poster competition, essay writing, and Kavisammelan were organized through online platform. Prof. Mukund Sharma, Scientist-G, BSIP delivered an online lecture in Hindi on the topic “हमारी भू-विरासत: वर्तमान दशा और दिशा” on September 14, 2021. All the scientific staff members including, research

scholars, technical, and administrative personnel of the institute participated in various events with enthusiasm.

**c. Lecture series on the occasion of Platinum Jubilee year of the Institute**

Institute is celebrating its platinum jubilee this year. A lecture series is being organized on this occasion. In this series, the first lecture was delivered by Prof. Ashok Sahni on “Prof. Birbal Sahni and his scientific journey” on September 3, 2021.

**d. Foundation Day Celebration (September 10, 2021)**

Foundation day of the Institute was celebrated on September 10, 2021 by offering floral tribute to Late Prof. Birbal Sahni by Director, Dr. Vandana Prasad, along with other scientific, technical and administrative staff members of the institute. On this occasion, Prof. Subir Sarkar, Jadhavpur University, Kolkata delivered a lecture (via online platform) on the topic “Preservational bias: a journey from Modern to the Precambrian depositional regime”. The event was attended by all the scientists, research scholars, technical and administrative staff of the institute.

**e. International conference on Neogene Climate Evolution and biotic Response(s) in South Asia**

Three days online international conference on Neogene Climate Evolution and biotic Response(s) in South Asia was organized by BSIP and NECLIME during September 7–9, 2021.

**f. Study on dietary analysis gives clues on protecting endangered Red Panda**

A team of BSIP scientists have studied the food pattern/dietary analysis of Red Panda with an intention to aid policymakers in protecting and locating the habits of ‘real panda’. Himalayan Red Pandas are critically endangered species and are treated as ‘living fossils’ because they are not related to any other living species. The study carried out a detailed multi-proxy analysis of the Panda dung samples collected from trees in Darjeeling and eastern Himalayas during both summer and winter season. This landmark study is published in renowned international journal of Nature group ‘*Scientific Reports*’. (<https://timesofindia.indiatimes.com/city/lucknow/studying-its-diet-can-help-save-red-panda/articleshow/86307546.cms>).

## List of research publications (September, 2021)

1. **Basumatary, S.K.**, Gogoi, R., **Tripathi, S.**, **Ghosh, R.**, **Pokharia, A.K.**, McDonald, H.G., Norbu Sherpa, N., Asperen, E.N., **Agnihotri, R.**, Chhetri, G., **Saikia, K.**, **Pandey, A.** (2021). Red Panda feces from Eastern Himalaya as a modern analogue for palaeodietary and palaeoecological analyses. *Scientific Reports* 11. Article no. 18312. DOI.: 10.1038/s41598-021-97850-y(**Impact factor: 4.379**).
2. **Farooqui, S.**, Shah, A.P., Maurya, D.M., Archana, G., **Ali, S.N.**, **Sharma, A.** (2021). Texture, mineralogy and geochemistry of late Quaternary sediments of the Mahi River basin, western India: Implications to climate and tectonics. *Applied Geochemistry*. DOI.: 10.1016/j.apgeochem.2021.105088. (**Impact factor: 3.524**).
3. Kumar, D., Ghosh, S., Tiwari, B., Varma, A.K., **Mathews, R.P.**, **Chetia, R.** (2021). Palaeocene-Eocene organic sedimentary archives of Bikaner-Nagaur Basin, Rajasthan, India: An integrated revelation from biogeochemical and elemental proxies. *International Journal of Coal Geology*. DOI.: 10.1016/j.coal.2021.103848. (**Impact factor: 6.806**).
4. Kumar, L., Farias, K., Satya Prakash, S., Mishra, A., Mustak, M.S., **Rai, N.**, Thangaraj, K. (2021). Dissecting the genetic history of the Roman Catholic populations of West Coast India. *Human Genetics*. DOI.: 10.1007/s00439-021-02346-4. (**Impact factor: 4.132**).
5. Song, A., Liu, J., Liang, S., Do, T.V., Nguyen, H.B., Deng, W., Jia, L., Rio, C.D., **Srivastava, G.**, Feng, Z., Zhou, Z., Huang, J., Su, T. (2021). Leaf fossils of *Sabalites* (Arecaceae) from the Oligocene of northern Vietnam and their paleoclimatic implications. *Plant Diversity*. DOI.: 10.1016/j.pld.2021.08.003. (**Impact factor: 2.528**).

6. **Shukla, A.**, Srivastava, R., Mehrotra, R.C., **Chandra, K.** (2021). First Record of *Lagerstroemia* (family Lythraceae) wood from the Deccan Intertrappeanbeds of India. *Journal of Geological Society of India* 97, 1028–1032. DOI.: 10.1007/s12594-021-1818-8. **(Impact factor: 1.459).**
7. **Chaddha, A.S., Sharma, A.**, Singh, N.K., (2021). Clay minerals identification in rock varnish by XRD: A one-step reduction approach. *MethodsX* 8. DOI.: 10.1016/j.mex.2021.101511.
8. **Ali, S.N.**, Shukla, A.D. (2021). An Exigency for Ice Core Studies to Determine Spatio-temporal Variability in Moisture Sources and Impact of Black Carbon – Mineral Aerosols on the Himalayan Glaciers. *Journal of Atmospheric Science Research*. DOI.:10.30564/jasr.v4i3.3556.
9. **Phartiyal, B.**, Clarke J.D.A., Pandey S. (2021). Prospects of astrogeology and astrobiology researches in India: Ladakh as an example. *Journal of Palaeosciences* 70, 327–337.

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



**NECLIME Online Conference**  
*Neogene climate evolution and biotic response(s) in south Asia*  
 September 7-9, 2021  
 ✓ **Introduction to NECLIME**

organized by the Birbal Sahni Institute of Palaeosciences, Lucknow, India  
 Convenor: Dr. Vandana Prasad (Director), BSIP, Lucknow, India  
 Organising secretaries: Dr. Gaurav Srivastava (Scientist-D), BSIP; Dr. Vivesh Vir Kapur (Scientist-D), BSIP



**Professor Birbal Sahni and his Scientific Journey**  
 Ashok Sahni  
 ashok.sahni@gmail.com

ashok.sahni is presenting

ashok.sahni has left the meeting

2:58 PM | ash-bhav-edu

BSIP Online, E.G. Misra, Nivedita Misra, ashok.sahni, Vijay Rasthwar, Suresh Gupta, Anil Kumar Mishra, Nigesh Kumar, Sandhya Misra, Sanku Bhat, Dr. Deepa Agrawal, Others

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## Studying its diet can help save Red Panda

**Mohita.Tewari**  
 @timesgroup.com

**'Pesticides behind rise in C-sections'**

**Lucknow:** In a first, a team of 12 scientists from Lucknow's Birbal Sahni Institute of Palaeosciences (BSIP) and Sikkim-based Botanical Survey of India (BSI) have discovered that the Red Pandas found in the eastern Himalayas region of the country not only eat Bamboos, like other Pandas, but also consume ferns/leaves of a few specific trees.

The team studied the food pattern/dietary analysis of the Red Panda with

**Pioneering study by KGMU's biochemistry department has found that presence of pesticides in our food disrupts hormones, reports Yusra Husain.** The study has also found the correlation between lower birth weight, caesarean deliveries in preterm births and the level of pesticide toxicity. **P6**

intention to aid policymakers in protecting and locating the habitats of the 'real Panda'.

▶ Leaves of other trees, P11