

Birbal Sahni Institute of Palaeosciences
Monthly summary on Research Activities
(May, 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. Significant events

1. National Online Quiz on Geoarcheology- 9th May 2021

An online Quiz activity was successfully conducted by HUCLIMQAT working group of Association of Quaternary Researchers (AOQR) on 9th May 2021. The quiz covered questions from the recent archeological studies as well as a wide range of geoarcheological methods. Out of 185 participants registered for the event, a total of 89 participants across the country successfully completed the quiz. Participants from 18 states/UT and various disciplines such as Geology, Archaeology, Geography, Environmental Science etc. and of UP, PG, M.Phil and PhD levels have taken the quiz. Out of 89, the participants who successfully scored more than 35% score were provided with a certificate of merit and the top 10 ranked participants were given rank certificates.

List of research publications (May, 2021)

1. **Singh, H.**, Judd, W.S., Samant, B., **Agnihotri, P.**, Grimaldi, D.A., Manchester, S.R. (2021). Flowers of Apocynaceae in amber from the early Eocene of India. American Journal of Botany. DOI.: 10.1002/ajb2.1651 (**Impact factor: 3.03**).
2. **Bansal, M.**, Nagaraju, S.K., **Mishra, A.K.**, Selvaraj, J., Patnaik, R., **Prasad, V.** (2021). Fossil pollen from early Palaeogene sediments in western India provides phylogenetic insights into divergence history and pollen character evolution in the pantropical family Ebenaceae. Botanical Journal of Linnean Society, boab025. DOI.: 10.1093/botlinnean/boab025. (**Impact factor: 2.07**).
3. **Mishra, D.K.**, Varma, A.K., Mendhe, V.A., **Agarwal, S.**, Singh, B.D., Hackey, P. (2021). Organo-Facies and Mineral Effects on Sorption Capacity of Low-Maturity Permian Barakar Shales from the Auranga Basin, Jharkhand, India. Energy & Fuels 35(9). DOI.: 10.1021/acs.energyfuels.0c04310. (**Impact factor: 3.42**).

4. **Quamar, M.F.** (2021). Monsoonal climatic reconstruction from central India during the last ca. 3600 calyr: Signatures of global climatic events, based on lacustrine sediment pollen records. *Palynology*, Article: 1930605. DOI: 10.1080/01916122.2021.1930605. **(Impact factor: 1.33)**.
5. Tiwari, N., **Morthekai, P.**, Krishna, K., Chauhan, P.R. (2021). Microlithic occurrences associated with sediments dated to terminal Pleistocene-late Holocene in the central Narmada basin, Madhya Pradesh, India. *Geological Society, London, Special Publications* 515. DOI: 10.1144/SP515-2020-216**(Impact factor: 3.10)**.
6. **Anjum Farooqui, A., Pillai, S.S.K., Agnihotri, D., Khan, S., Tewari, R., Shukla, S.K., Ali, S.,** Pandita, S.K., **Kumar, K.**, Bhat, G.D., **Agnihotri, R.** (2021). Impact of climate on the evolution of vegetation in tectonically active Karewa basin, Kashmir Himalayas. *Journal of Earth System Science* 130, Article number: 93. DOI: 10.1007/s12040-021-01586-2**(Impact factor: 1.42)**.
7. **Srivastava, J., Farooqui, A., Thakur, B., Seth, P.**(2021).Palynomorph distribution in a mangrove ecosystem along environmental and salinity gradient: a tool for palaeoecological reconstruction. *Wetlands Ecology and Management*. DOI: 10.1007/s11273-021-09803-x**(Impact factor: 1.22)**.
8. Lan, Z., **Pandey, S.K.**, Zhang, S., **Sharma, M.**, Gao, Y., Wu, S. (2021). Precambrian crustal evolution in Northern Indian Block: Evidence from detrital zircon U-Pb ages and Hf-isotopes. *Precambrian Research* 361, Article number: 106238. DOI: 10.1016/j.precamres.2021.106238**(Impact factor: 4.42)**.
9. Sharma, C.P., Chahal, P., Kumar, A., Singhal, S., Sundriyal, Y.P., Ziegler, A.D., **Agnihotri, R.**, Wasson, R.J., Shukla, U.K., Srivastava, P. (2021). Late Pleistocene–Holocene flood history, flood-sediment provenance and human imprints from the upper Indus River catchment, Ladakh Himalaya. *Geological Society of America Bulletin*. DOI: 10.1130/B35976.1. **(Impact factor: 3.55)**.
10. Trivedi, A., Bhattacharyya, R., Ghosh, A.,Saha, N.D., Biswas, D.R., Mahapatra, P., Verma, S., Shahi, D.K., Khan, S.A., Bhatia, A., **Agnihotri, R.**, Sharma, C. (2021). 60 years of fertilization and liming impacts on soil organic carbon stabilization in a sub-tropical Alfisol. *Environmental Science and Pollution Research*. DOI: 10.1007/s11356-021-14019-w**(Impact factor: 3.05)**.
11. Dhyani, R., **Shekhar, M.**, Joshi, R., Bhattacharyya, A., **Ranhotra, P.S.**, Pal, A.K., Thakur, S., Nandi, S.K. (2021). Reconstruction of pre-monsoon relative humidity since 1800 C.E. based on tree-ring data of *Pinus roxburghii* Sarg. (chir–pine) from Pithoragarh, Western Himalaya. *Quaternary International*. DOI: 10.1016/j.quaint.2021.04.026. **(Impact factor: 2.00)**.

12. Tanga, Q., Pang, K., Li, G., Chen, L., Yuan, X., **Sharma, M.**, Xiao, S. (2021). The Proterozoic microfossil *Tawuia* as a coenocytic eukaryote and a possible macroalga. *Palaeogeography, Palaeoclimatology, Palaeoecology*. Article no. 110485. DOI:10.1016/j.palaeo.2021.110485(**Impact factor: 2.83**).
13. **Das, N.**, Bhowmik, N., Parveen, S. (2021).Megaspore *Biharisporites*Potonié from the Triassic of Nidpur, Madhya Pradesh, India: A New Report. *Journal of Geological Society of India* 97, 501–512. DOI: 10.1007/s12594-021-1716-0. (**Impact factor: 0.89**).
14. **Kavali, P.S.**, Roy, A.,Pasquo, M.D., **Gurumurthy, G.P.**, Sharma, G., Kumar, A. (2021). New age of the Lower Talchir Formation in the Wardha basin, central India, based on guide palynomorphs present in radiometrically- dated palynozonations in South America, Africa, and Australia. *Ameghiniana*. DOI: 10.5710/AMGH.29.03.2021.3423. (**Impact factor: 0.52**).

Photograph showing important highlights of major programs/research activities organized during May, 2021:

