Trina Bose

Subjects of Interest: Earth and Environmental Sciences, Climate Physics, Climate change, Environmental pollution, Environmental hazards, Geochemistry, Paleoclimate, Isotope Geochemistry, Well Logging and Reservoir Geophysics, Computer Programming, Mathematical Methods in Geophysics, Numerical Methods, Environmental Geophysics, Non-linear Systems in Geophysics, Geophysical Instrumentation and Signal Processing, etc.

Highlights:

- Scientist at Birbal Sahni Institute of Paleosciences, Lucknow, from 29th March 2017 to present
- Integration of myriad climate datasets with cohesive interpretations.
- PhD thesis and related publications cover quantitative reconstructions from tree-ring carbon and oxygen isotope data with models applicable to datasets from diverse regions, which was the first of this kind in the world.
- Studies of climate cyclicities with meteorite activities and interpretations of observed physicochemical effects of meteorite impacts.
- Extensive fieldwork experience in north-eastern and central India along with the Indo-Gangetic plains, including speaking regional languages of these areas, i.e., Hindi, Punjabi, Bhojpuri, Bangla, Marathi, Odia, Asamiya, etc.
- Awareness of Computing includes Climate data operators (CDO), Fortran, LaTeχ, GRADS, MATLAB, C, Origin Lab, Python, SQL, etc.

Publications:

SCI:

- Bose, T., Shekhar, M., Yadava, A.K., Mishra, A., Pandey, A. and Kumar, A., 2026. Radiocarbon dating identifies the Indian Banyan tree in Munger as the oldest accurately dated Ficus benghalensis in the world. Quaternary Research, https://doi.org/10.1017/qua.2026.10086.
- Tiwari, P., Thakur, B., Srivastava, P., Gahlaud, S.K.S., Bose, T., Kumar, A., Bhushan, R. and Agnihotri, R., 2024. Was LIA synchronous with equa-tropical climate? A multiproxy study from the southwest coast of India. Quaternary International. https://doi.org/10.1016/j.quaint.2024.09.004
- Tripathi, S., Thakur, B., Sharma, A., Phartiyal, B., Basumatary, S. K., Ghosh, R., ... & Bose, T. (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.
- Phartiyal, Binita, Anjum Farooqui, and Trina Bose; 2020. Climate change variability through Lacustrine Records published during 2016-2019: Implications, New Approaches, and future direction; Proceedings of Indian National Science Academy, vol. 86, no. 1, pp. 389-403.
- Trina Bose, Saikat Sengupta, Supriyo Chakraborty, Hemant Borgaonkar; 2016, Reconstruction of soil water oxygen isotope values from tree ring cellulose and its implications for paleoclimate studies; Quaternary International, Volume 425, Pages 387-398, ISSN 1040-6182, http://dx.doi.org/10.1016/j.quaint.2016.07.052.

- Trina Bose, Supriyo Chakraborty, Hemant Borgaonkar, Saikat Sengupta and R. Ramesh; Estimation of Past Atmospheric Carbon dioxide levels using tree ring $\delta^{13}C$; Vol. 107, No. 6, 25 September 2014 Current Science; http://www.currentscience.ac.in/Volumes/107/06/0971.pdf
- S. Sengupta, Anant Parekh, S. Chakraborty, K. Ravi Kumar, and T. Bose, 2013; Vertical variation of oxygen isotope in Bay of Bengal and its relationships with water masses; Journal of Geophysical Research: Oceans, VOL. 118, 1–14, doi:10.1002/2013JC008973
- Bose, T., Misra, S., Chakraborty, S., & Reddy, K.; 2013. Gamma (γ)-Ray Activity as a Tool for Identification of Hidden Ejecta Deposits around Impact Crater on Basaltic Target: Example from Lonar Crater, India; Earth, Moon, and Planets, 1-16, doi: 10.1007/s11038-013-9422-6,
- Trina Bose, Ajoy K. Bhaumik and Saumitra Misra, 2007, Meteoritic Impacts and Climatic Changes in Pliocene-Pleistocene Epoch, Earth Moon and Planets, 101:141-151 DOI 10.1007/s11038-007-9190-2

Non-SCI:

- Trina Bose and Supriyo Chakraborty. 2023, Demonstration of process-based reconstruction of annual temperatures from tree ring oxygen isotope. Journal of Palaeosciences 72, no. 2: 81-89.
- Anjali Trivedi, Trina Bose, Anupam Nag, and Navya Reghu. 2023, Landuse-landcover Mapping and Modelling using Pollen and Isotopic Data in Different Ecological Regions of the Monsoon (LEM), International School and Symposium (ISS) 2023: A Report. Journal of the Geological Society of India, 99 (11), 1632-1633.
- Trina Bose, Anjali Trivedi, and Akash Srinivas. 2023, Landuse-Landcover Mapping and Modelling in different Ecological regions of the Monsoon International School and Symposium–2023." Journal of Palaeosciences 72, no. 1: 59-62.
- Trina Bose, Supriyo Chakraborty, Hemant Borgaonkar, Saikat Sengupta, 2013, Reconstructed pCO_2 data from tree ring cellulose $\delta^{13}C$ during 1902-2005 at 10 sites in the Tropics and Northern Subtropics, Pangaea, doi:10.1594/PANGAEA.800072

Edited Book:

- "Global Warming and Climate Change", Editors: S. Chakraborty, Trina Bose; DST Sponsored SERC School on Global Warming and Climate Change, December 1-21, 2010
    - Indian Monsoon in a Changing Climate: An overview; Lecture: B.N. Goswami; Text: Trina Bose
    - The Impact of Climate Change on India's Monsoonal Climate; Lecture: K. Krishna Kumar; Text: Trina Bose
    - Responding to Climate Change; Lecture: A. Patwardhan, IIT-Mumbai; Text: Trina Bose

Popular Articles:

- Women of Quaternary, Trina Bose, Association of Quaternary Researchers (AOQR), Quaternary Chronicles Newsletter (QC) Vol. 2 N 1 APRIL 2020
- Perspectives on Quaternary Data Integration, AOQR QC Vol. 3 No. I April 2021
- Report on Landuse-Landcover Mapping and Modelling in different Ecological regions of the Monsoon International School and Symposium–2023; Akash Srinivas and Trina Bose; AOQR QC Vol. 5 No. I April 2023
- Studying African Baobab trees on the Mandav (Mandu) plateau, Madhya Pradesh; Trina Bose, Anne Casile, Avanish Mishra, Yanni Gunnel, Supriya Varma, Amalava Bhattacharya; AOQR QC Vol. 6 No. 3 December 2024

- In the QC Editorial Team 2019-2025

External Projects:

- Studying African Baobab trees on the Mandav (Mandu) plateau, Madhya Pradesh as part of the Indo-French MANDU project
- सीतामढ़ी जिला के पंथपाकड़ ग्राम में अवस्थित पाकड़ वृक्ष तथा मुंगेर जिला के ITC परिसर के बरगद पेड़ के आयु आंकलन
- International Union for Quaternary Research (INQUA), funded "Landuse-landcover mapping and modelling using pollen and isotopic data in different ecological regions of the monsoon", led by Dr. Trina Bose, BSIP (corresponding) with Dr. Navya Reghu, Manipal Academy of Higher Education and Dr. Anjali Trivedi, BSIP
- SERB Project File Number: ECR/2017/002228 – Reconstruction of long-term soil moisture evaporation in drought-prone Bundelkhand and Vidarbha regions using tree-ring cellulose isotope data

Hobbies & Interests:

Reading, Writing, Traveling, History, Music, Designing, Geology, Astronomy, Theoretical Physics, and many more.