JYOTI SRIVASTAVA

SCIENTIST

About Me

I work on vegetation dynamics in response to climate change over a range of timescales with a concern for human-environment interactions in past, present, and future. This involves, elucidating the impact of past global climate change on the ecology of terrestrial and deltaic systems. I study palaeoecological records of vegetation biomes, field datasets and ecological niche models to understand and predict the impact of global warming on the biosphere. I hold expertise in mangrove palynology, palaeoecology, palaeoclimatology and vegetation modelling. My ongoing research work focuses on quantification of pollen-based reconstructions of past landcover for several time windows to produce vegetation descriptions useful for Earth system modelling.

Research Experience

Birbal Sahni Institute of Palaeosciences 2025 - Present
Scientist-E
Quaternary Paleoclimate Department

Birbal Sahni Institute of Palaeosciences 2021 - 2024
Scientist-D
Quaternary Paleoclimate Department

Birbal Sahni Institute of Palaeosciences 2017 - 2020
Scientist-C
Marine Micropaleontology Department

Birbal Sahni Institute of Palaeosciences 2013 - 2016
Scientist-B
Marine Micropaleontology Department

Birbal Sahni Institute of Palaeosciences 2011 - 2012
DST-SRF
Quaternary Palynology Department

Birbal Sahni Institute of Palaeosciences 2009 - 2011
DST-JRF
Quaternary Palynology Department

Teaching Experience

Academy of Scientific and Innovation Research (AcSIR) 2022 - Present
Associate Professor
Faculty of Biological Sciences

Academy of Scientific and Innovation Research (AcSIR) 2020 - 2021
Assistant Professor
Faculty of Biological Sciences

Global Centre for Languages, Lucknow 2008 - 2009
Spoken English Trainer

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R-014 DLF Woodland Heights,
Bommasandra Jigani Link Road,
Bengaluru- 560105
Karnataka

Expertise

- Palynology
- Ecological modelling
- Mangrove ecology
- Biodiversity and Conservation
- Mangrove evolution and Paleobiogeography
- Past continental climate and land-sea interactions

Language

Hindi

English

Affiliation

Birbal Sahni Institute of Palaeosciences
53 University Road,
Lucknow-226 007
Position: Scientist-E

Supervisory Experience

PhD Thesis Supervised

Dr. Pujarini Samal
Late Holocene palaeoclimatic and palaeovegetation reconstruction from the Mahanadi River Delta, East coast of India- A multi-proxy approach

Dr. Pooja Nitin Saraf
Species distribution modeling to project the past and future potential habitats based on current distribution of the tropical deciduous forest species in India

PhD Scholar(s) under supervision

- Mr. Jereem Thampan
  Modelling the potential response of natural vegetation to past, present and future climate change scenarios in Rajasthan, Western India
- Mr. Sourav Hazra
  Quantification of pollen-based reconstructions of Holocene land cover of Southwest India for Earth system modelling
- Ms. Aishwarya Gupta
  Developing Species Distribution Models for high medicinal value plant species facing habitat loss in response to future climate change scenarios.

PhD Scholar(s)/Post docs (affiliated to other institutions) supervised for palynological analysis

- Dr. Shivangi Singh
  Assessment of response of Pichavaram mangroves to sea level rise: A multidisciplinary approach using RSET-MH and palynological analysis, under the guidance Dr. R. Sathyanathan (SRM Institute of Science and Technology, Chennai)
- Ms. Yamuna Sali (CSIR-SRF)
  Assessment of sediment cores from Lake Ramasamudra (Karkala, Udupi) to reconstruct past variations in the monsoonal intensity, under the guidance of Dr. Anish Kumar Warrier, Manipal Academy for higher education- Manipal Institute of Technology (MAHE-MIT), Manipal.
- Mr. Pranav Prakash (PhD Scholar)
  Holocene vegetation-dynamics and sea-level fluctuations in northern Kerala: - Insights from terrestrial multiproxy records, under the guidance of Dr. .Dr. Rajesh Reghunath, Professor, Department of Geology, University of Kerala, Thiruvananthapuram.

Education

2013
Lucknow University
PhD (Botany)
Late Quaternary Palynochronostratigraphy in North- eastern part of Cauvery delta: Implications in palaeoclimatic and sea-level studies

2007
CSIR-NET
Life Sciences

2006
Banaras Hindu University
MSc (Botany)
Department of Botany, Centre of Advanced Study
Gold Medalist in Ecology

2004
Lucknow University
BSc (ZBC)
Isabella Thoburn PG College, Lucknow

2000
ISCE
Class 12
Loreto Convent, Lucknow

1998
ICSE
Class 10
Loreto Convent, Lucknow

Scientific programmes/Projects

Completed

- Reconstruction of late Quaternary climate from the floral records of Kanara region, SW coast of India
- Early Paleogene climatic records and biostratigraphy: Integrative multiproxy approach from South Shillong Plateau (Meghalaya) and lignite-bearing sequences of Rajasthan.
- FastTrack project for Young Scientist Project: Mangrove dynamics and relative sea level changes during late Quaternary in Godavari Delta.

Ongoing

- Quaternary Monsoon/Climate reconstruction through high resolution multi-proxy studies of lacustrine archives from Central India (Core Monsoon Zone and Indo-Gangetic Plain)
- SERB-SUPRA Project: Quantification of pollen-based reconstructions of Holocene land cover of Southwest India for Earth system modelling.

Affiliations / Positions / Memberships

- Member, Association for Tropical Biology and Conservation
- Member, Conservation Paleobiology Network
- Member, INQUA- Human and Biosphere Commission (HABCOM)
- Member, Association of Quaternary Researchers (AOQR)
- Member, Editorial Board, Quaternary Chronicle (under Association of Quaternary Researchers (AOQR)
- Life Member, Palaeobotanical Society of India
- Life Member, Palaeontological Society of India
- Member, Screening Committee for recruitment in BSIP, Lucknow.
- PhD Co-Supervisor, Manipal Academy of Higher Education (MAHE) for Quaternary Paleoclimate, Palynology, Mangrove dynamics, Estuaries and Deltaic ecosystem, Biodiversity and conservation, Species distribution Modelling (2022-)
- Member, AcSIR biological sciences coursework for BSIP Committee
- Member, Editorial board, Geophytology, The Palaeobotanical Society, Lucknow (2016-2018).

National/International Conferences/Seminars/Invited Talks

- 31 National and 10 International conferences attended
- Invited talk on “Introduction to Palaeobotany” at Navyug Mahila Mahavidyalaya, Lucknow on November 14, 2014.
- Invited talk on “Mangrove Palynology: Implications in Palaeoclimatic and sea level studies” in Department of Geological Sciences, Guwahati University on February 6, 2015.
- Invited talk on “Pollen based quantitative reconstruction of past climate and vegetation” in Pune-Mumbai Students’ Chapter, Palaeontological Society of India on October 16, 2020.
- Invited talk on “Holocene climate and RSL changes in NE Cauvery Delta” in Quaternary Palynology Training by Association of Quaternary Researchers from January 22-24, 2021.
- Invited expert talk on “Species distribution models to predict the priority conservation areas (PCAs) for mangrove ecosystem” in the International School and Symposium- 2023 “Landuse-landcover mapping and modelling in Ecological regions of the Monsoon (LEM)" during March 13-26, 2023.
- Invited talk on “Species distribution models to predict the potential niche shift and priority conservation areas for Mangroves in Response to Climate and sea level fluctuations along Coastal India” in the 'Mangroves of East Coast of India' meeting organized by IISER Kolkata from August 31- September 1, 2023.
- Plenary talk on “Predictive models for climate change impact on Tropical Deciduous and Evergreen Forests of India” in the 14th Biennial Lake Symposium from October 17-20, 2024.

Awards and Recognitions

- Mrs. Prem Kumari Singh Memorial Gold Medal for securing the highest marks in Ecology in MSc Examination, 2006 from Banaras Hindu University.
- Nominated to undertake a Refresher course organized by the Regional Training Institute, Geological Survey of India, Northern region, Lucknow from May 11-16, 2015 on the theme “Paleontology and Biostratigraphy”.
- 2nd Prize for Best Poster award entitled “Estuarine ecosystem dynamics in response to Holocene climate and sea level changes in southeast coast India: Evidences from pollen and sedimentary archives” in NECLIME 2016.
- Jury for model display event in the “National Geography Olympiad and Geofest International-2015” held at City Montessori School, Lucknow on 4th November 2015.

- Mentor to nurture school students about science, as desired by Vijnana Bharti.
- DST-International Travel Support (ITS) for CNRS Summer School- POLQUANT – on "Pollen analysis and its applications for vegetation reconstruction in National Center for Scientific Research (CNRS) Moulis, France from 29th August- 2nd September 2016.
- INQUA Congress Bursary Grant 2019 as a full delegate for attending the 20th INQUA Congress from 25-31 July 2019 in Dublin,
  Ireland.
- Nominated as a panelist in a panel discussion on 'Women in Science' for National Science Day and attended a Vigyan Samachar workshop from 28-29 February 2020 in CSIR-IITR, Lucknow.
- News story on research titled "Certain mangrove species in east coast and west coast of India is likely to reduce and shift landward" got covered on Press Information Bureau- Government of India.
- News story on research titled "Climate change impact: Bael and bahera to thrive, chironji, mahua & amla to decline, shows study" got covered by Science magazine Down to Earth under Wildlife and Biodiversity.
- DGCA approved certified Pilot for remotely piloted aircraft system (RPAS) from Airbus India Training Centre, Bengaluru.

Publications

- Thampan, J., **Srivastava, J.***, Saraf, P.N., Samal, P. (2025). Habitat distribution modelling to identify areas of high conservation value under climate change for an endangered arid land tree *Tecomella undulata*. Journal of Arid Environments, 227, 105317.
- **Srivastava, J.***, Samal, P., Manoj, MC., 2024. Late Holocene Vegetation Dynamics and Sea Level Fluctuations: A High-Resolution Record from Southeast India. Quaternary, 7(4), 53.
- Prasanna, K., Sarkar, A., Sharma, A., M C, M., Tripathi, S., Thakur, B., ….**Srivastava, J.**, Rahi, I.C. 2024. Heavy Metal Pollutants and Their Spatial Distribution in Surficial Sediments from the Gangetic Plains, Central, and Western Parts of India. Soil and Sediment Contamination: An International Journal, 1–21.
- Saraf, P.N., **Srivastava, J.***, Munoz, F. *et al.* (2024). How can dry tropical forests respond to climate change? Predictions for key Non-Timber Forest Product species show different trends in India. *Environ Monit Assess* 196, 727.
- Quamar, M. F., Thakur, B., Sharma, A., Kumar, K., Tiwari, P., Tiwari, A., Prasad, N., **Srivastava, J.**, Phartiyal, B., Manoj, M. C., Roy, I., Saraf, P. N., Prasanna, K., Ali, N., Khan, I., Pandey, S., & Trivedi, A. (2024). Multiproxy studies on the spatially distinct surface samples to reconstruct palaeoecology and palaeoclimate from the Core Monsoon Zone of India. *Journal of the Palaeontological Society of India*, *69*(1), 21-36.
- Saraf, P. N., **Srivastava, J.***, Charles, B., Munoz, F., Samal, P., & Quamar, Md. F. (2024). Using proxy data and vegetation modelling to predict past, current and future distributional shifts of Butea monosperma, a marker of land degradation in India. *Journal of the Palaeontological Society of India*, *69*(1), 80-94.
- Nitin Saraf, P., **Srivastava, J.***, Munoz, F., Charles, B., Samal, P., & Quamar, M. F. (2024). Ecological niche modelling to project past, current and future distributional shift of black ebony tree Diospyros melanoxylon Roxb. in India. *Nordic Journal of Botany*, e04266.
- Samal, P., **Srivastava, J.***, Subramanian, S.R., Charles, B. (2023). Species distribution models to predict the potential niche shift and priority conservation areas for mangroves (Rhizophora apiculata, R. mucronata) in response to climate and sea level fluctuations along coastal India. Ecological indicators 154, 110631.
- Samal, P.*, Subramanian, S.R., **Srivastava, J.,** Kawsar, M., Manoj, M.C., Gurumurthy, G.P., Chauhan, M.M., Ali, S., Alam, M., Sharma, A., Jena, P.S., Shivam, A., Bhushan, R. (2023). A 2600-yr multiproxy record for climate and vegetation reconstruction along the Mahanadi River delta, east coast of India. The Holocene, 33(7), 860–879.
- Samal, P.*, Subramanian, S.R., **Srivastava, J.**, Jena, P.S., Shivam, A., Bhushan, R. (2023) Coastal vegetation dynamics in response to climatic and relative sea level changes in Mahanadi River delta, NE coast of India, Palynology, DOI: 10.1080/01916122.2022.2134937.
- Samal, P., **Srivastava, J.***, Singarasubramanian, S.R., Saraf, P.N., Charles, B. (2022). Ensemble modeling approach to predict the past and future climate suitability for two mangrove species along the coastal wetlands of peninsular India. Ecological Informatics, 72, p.101819.
- Samal, P.*, Singarasubramanian, S.R., Manoj, M.C., **Srivastava, J.**, Dsouza, N., Balakrishna, K., Chauhan, M.M., Ali, S (2022). Heavy metal contamination assessment and its associated human health risk evaluation in the Mahanadi River sediments, India. Int. J. Environ. Sci. Technol. (2022). https://doi.org/10.1007/s13762-022-04630-w.
- **Srivastava, J.***, Manoj, M.C., Manjunatha, B.R., Yoganandan, V., Jose, J., Balakrishna, K., Naveen Kumar A., Ahmed, A. (2022). Delineation of terrestrial and marine productivity in the southwestern continental margin of India, Journal of Asian Earth Sciences, 230, 105-203.
- **Srivastava, J.***, Manjunatha, B.R., Balakrishna, K., Prajith, A., Manjunatha, H.V., Jose, J., Kumar, N. (2021). Quantitative pollen-based reconstruction of the vegetation diversity in response to the late-Holocene climate change near Karwar, south-west coast of India. Quaternary International 599–600, 95-106.
- **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 29, 703–717.

- Manoj, M.C.*, **Srivastava, J.**, Uddandam, P.R., Thakur, B. (2020). A 2000 Year Multi-Proxy Evidence of Natural/ Anthropogenic Influence on Climate from the Southwest Coast of India. Journal of Earth Science, 31(5), 1029–1044.
- Shah, S.K., Kapur, V.V., Manoj, M.C., **Srivastava, J.**, Prasad, V. (2020). Recent Advancement(s) at the Birbal Sahni Institute of Palaeosciences, Lucknow: An Overview. Proc Indian Natn Sci Acad 86(1), 675-688.
- **Srivastava, J.***, Prasad, V. (2019). Evolution and paleobiogeography of mangroves. Marine ecology 40(6), e12571.
- **Srivastava, J.***, Farooqui, A., Seth, P. (2018). Pollen-vegetation relationship in surface sediments, Coringa mangrove ecosystem, India: palaeoecological applications, Palynology 43(3), 451-466.
- Prasad, V.*, Utescher, T., Sharma, A., Singh, I.B., Garg, R., Gogoi, B., **Srivastava, J.**, Uddandam, P., Joachimski, M.M. (2018) Low-latitude vegetation and climate dynamics at the Paleocene-Eocene transition – A study based on multiple proxies from the Jathang section in northeastern India. Palaeogeography Palaeoclimatology Palaeoecology 497, 139-156.
- **Srivastava, J.***, Farooqui, A. (2017). Holocene climate and relative sea level changes in Cauvery River Delta, India based on Pollen and sedimentary records. Journal of Palaeontological Society of India 62(2), 193-204.
- **Srivastava, J.,** Prasad, V*. (2015). Effect of global warming on diversity pattern in Nypa mangroves across Paleocene–Eocene transition in the paleo-equatorial region of the Indian sub-continent. Palaeogeography, Palaeoclimatology, Palaeoecology 429, 1–12.
- Thakur, B.*, **Srivastava, J.,** Uddandam, P., Manoj, M.C., Prasad, V. (2015) Role of sedimentary processes and environmental factors in determining the distribution pattern of diatoms and marine/ terrestrial palynomorphs in a tropical coastal wetland. Journal of the Palaeontological Society of India 60(2), 71-84.
- Hussain, S.M., Nishath, N.M., **Srivastava, J.** (2015). Distribution and environmental implications of foraminifera in the core samples of Kollidam and Marakkanam mangrove locations, Tamil Nadu, South-east coast of India. In. Lakes and wetlands (eds. Vasudevan S, Ramkumar T, Singhal RK, Rajanikanth A, Ramesh G. Partridge Publishers, 314-333.
- **Srivastava, J.***, Farooqui, A. (2014). Environmental impact on Palynological Assemblage and Thecamoebians in the Tributary of Uppanar River, Cauvery Delta during the last 3300 years. Journal for Geological Society of India 84, 459–466.
- Farooqui, A.*, Pattan, J.N. Parthiban, G., **Srivastava, J.**, Ranjana. (2014). Palynological record of Tropical rainforest vegetation and sea level fluctuations since 140 ka from sediment core, south-eastern Arabian Sea. Palaeogeography, Palaeoclimatology, Palaeoecology, DOI: 10.1016/j.palaeo.2014.06.020.
- **Srivastava, J.***, Farooqui, A., Hussain, S.M. (2013). Climate induced Late-Holocene ecological changes in Pichavaram Estuary, India. Marine Ecology, 34, 474–483.
- **Srivastava, J.***, Farooqui, A. (2013). Late Holocene mangrove dynamics and coastal environmental changes in the Northeastern Cauvery River Delta, India. Quaternary International 298, 45- 56.
- **Srivastava, J.***, Farooqui, A. (2013). Late Holocene mangrove dynamics and coastal environmental changes in the Northeastern Cauvery River Delta, India. Quaternary International 298, 45- 56.
- **Srivastava, J.***, Farooqui, A., Hussain, S.M. (2012). Vegetation history and salinity gradient during the last 3700 years in Pichavaram Estuary, India. Journal of Earth system sciences, 121(5), 1229–1237.
- **Srivastava, J.***, Farooqui, A., Hussain, S.M. (2012). Sedimentology and salinity status in Pichavaram mangrove wetland, Southeast coast of India. International Journal of Geology, Earth and Environmental Sciences (Online), 2 (1), 7-15.
- **Srivastava, J.***, Farooqui, A., Hussain, S.M. (2011). Ecological changes in Pichavaram estuary during the last 4 millennium. International Journal of Geology, Earth and Environmental Sciences (Online), 1 (1), 18-26.
- Farooqui, A.*, Hussain, S.M., Arikesan, S., **Srivastava, J**. (2010). Deposition of biotic forms in the surface and sub-surface sediments of the Pichavaram estuary and adjoining areas. Journal of Soil Science, Ukranian Academy of Sciences, 1-2, 28-40.
- Farooqui, A.*, **Srivastava, J.**, Hussain, S.M. (2009). Comparative Leaf Epidermal Morphology and Foliar Na:K Accumulation in Suaeda species: A Case Study from Coastal Ecosystem, East Coast, India. International Journal of Plant Morphologists (Phytomorphology) 59 (3&4), 102-111.

Popular Science articles

- **Srivastava, J.**, Alappat, L. (2020). Ecological impacts of Coronavirus lockdown or 'Anthropause'. Quaternary Chronicles, AOQR newsletter 2(2), 8-10.
- **Srivastava, J.** (2022). Role of palynomorph assemblages from a mangrove wetland in paleoenvironmental reconstruction. CPN Newsletter, Conservation Paleobiology Network 11, 2.
- **ज्योति श्रीवास्तव,** (2023) उष्णकटिबंधीय वन पारिस्थितिकी तंत्र के लिए प्राथमिकता संरक्षण क्षेत्रों (पीसीए) की भविष्यवाणी करने के लिए प्रजाति वितरण मॉडल | पुराविज्ञान स्मारिका, अंक 2
- Saraf, P.N., **Srivastava, J.** (2024) Predictive models for climate change impact on Tropical dry deciduous forests of India. Association of Quaternary Researchers (AOQR), Quaternary Chronicles Vol 6(2).
- सुश्री पूजा नितिन सराफ, **डॉ. ज्योति श्रीवास्तव** (2024) भारत के उष्णकटिबंधीय शुष्क पर्णपाती वनों पर जलवायु परिवर्तन के प्रभाव के लिए पूर्वानुमान मॉडल पुराविज्ञान स्मारिका, अंक 3.

Other Professional Experience

- Health and nutrition coach, giveaway yoga, weight training sessions and nutritional guidance to people and research scholars for cultivating healthy eating habits and mental/emotional health.
- Conducted yoga flow sessions on "International Day of Yoga" in BSIP campus for all the staff members and researchers in the year 2022, 2023 and 2024.

I solemnly declare that the information in this resume is true to the best of my knowledge and belief.

Dr. Jyoti Srivastava
Scientist-E
Birbal Sahni Institute of Palaeosciences
53 University Road
Lucknow-226007