



DR. ANJALI TRIVEDI

SCIENTIST - E



About Me

I research vegetation dynamics in response to climate change over a range of timescales, taking into account past, present, and future human-environment interactions. Understanding how previous global climate change affected and altered the terrestrial environment is necessary for this. I can comprehend and predict the effects of global warming on the biosphere by utilizing palaeoecological records of vegetation biomes, field datasets, and ecology niche models. My areas of expertise are palaeoecology, palaeoclimatology, and vegetation modeling in the tropical Himalayan and Ganga Plain. My current research involves quantifying pollen-based reconstructions of historical landcover for various time periods in order to describe vegetation for various climate models.



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EXPERTISE

- Palynology
- Ecological modelling
- Ganga plain ecology
- Biodiversity and Conservation
- Himalayan and
- Paleobiogeography
- Past Holocene climate
- Culture Climate relationship

LANGUAGE

- Hindi
- English
- Sanskrit (Basic)

Research Experience

- **Birbal Sahni Institute of Palaeosciences, 2023- Present**
Scientist- E
Quaternary Paleoclimate Department
- **Birbal Sahni Institute of Palaeosciences, 2019-2022**
Scientist- D
Quaternary Paleoclimate Department
- **Institute of Botany, Chinese Academy of Sciences, Beijing, China**
CAS-PIFI (Presidential Visiting Scientist Fellowship)-2016-17
- **Institute of Botany, Chinese Academy of Sciences, Beijing, China**
CAS-TWAS Post Doctoral Fellowship 2010 at Institute of Botany, CAS, Beijing, China. 2016-2017
- **Birbal Sahni Institute of Palaeosciences, 2021-2022**
Women Scientist Scheme (WOS-A) 2010-2011
- **CAS in Geology Lucknow University, Lucknow , 2007-2010**
Research Associate, CSIR, New Delhi
- **Birbal Sahni Institute of Palaeosciences, 2002- 2004**
Senior Research Fellowship, CSIR
- **Birbal Sahni Institute of Palaeosciences, Lucknow,1999 -2001**
Junior Research Fellow

Teaching Experiences

- **Academy of Scientific and Innovation Research (AcSIR) 2023 - Present**
Professor
Faculty of Biological Sciences
 - **Academy of Scientific and Innovation Research (AcSIR) 2019 -20222**
Associate Professor
Faculty of Biological Sciences
-

Supervisory Experiences

- PhD Scholar under supervision Ms. PhD Scholar under supervision Ms. Md. Ikram
Reconstructing middle Holocene climate and vegetation biomes from fossil pollen data and species distribution modelling in Central Ganga plains

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

- *Mrs. Priyanka Singh Chamyal* (Senior Geologist, GSI) Palynologica and micropalaeontological studies of Holocene sediments in lower Yamuna Valley for deciphering palaeoclimate changes., under the guidance of Dr. Komal Verma.

Education

- Ph.D. (Botany) Lucknow University, 2000–2005, “Vegetational History and Inferred Climate in Jammu Region Through Lake Sediment Palynological Studies”
- M.Sc. (Forestry) 1995–1998, Dept. of Bioscience, PRRSU, Raipur University, Chattishgarh, India
- B.Sc. (Zoology, Botany, Chemistry) 1990–1993, University of Lucknow, Lucknow University India
- P.G. Diploma in Archeology and Museology 2007, Lucknow University, Lucknow

- Awarded **INQUA** funded multi year project “Landuse-landcover mapping and modelling using pollen and isotopic data in different ecological regions of the monsoon” (LEM) project’s International School and Symposium-2023 .
- Awarded **CAS-PIFI Presidential Visiting Scientist Fellowship** 2016 at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **Best Paper presentation Award** in National conference on “Recent Development in Plant and Earth Sciences” on 28-29 Nov. 2013 at Birbal Sahni Institute of Palaeosciences, Lucknow.
- Awarded **CAS-TWAS (Third World Academy of Sciences) Visiting Scholar Fellowship 2012** at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **CAS-TWAS (Third World Academy of Sciences) Post Doctoral Fellowship 2010** at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **Women Scientist Scheme (WOS-A)** (SR/WOS-A/ES-18/2009) entitled “Studies on Quaternary vegetation, climate change and human habitation in the Central Ganga Plain”.
- Awarded **Young Scientist Research Project** (SR/FTP/ES-127/2010) entitled “Multiproxy records for Quaternary palaeoclimatic change, vegetation dynamics and relative human impact on the environment in the Central Ganga Plain” under Fast track scheme by DST, New Delhi in 2010.
- Awarded **Research Associate** by CSIR, New Delhi from 2007-2010 to work on the Research project (09/107(0312)/2006-EMR-1) entitled “Holocene vegetation and climate change of the Central Ganga Plain”.
- Awarded thesis entitled “Vegetational History and Inferred Climate in Jammu Region Through Lake Sediment Palynological Studies” in 2005 at Department of Botany, Lucknow University, Lucknow.
- Awarded **Senior Research Fellowship** of CSIR from 2002 to 2004 at Birbal Sahni Institute of Palaeosciences, Lucknow and continued work from Jammu.
- Awarded **BRPM Gold Medal** by the Governor for the best research paper presentation in the 21st Annual Session of “Academy of Environmental Biology” on Nov. 7, 2000 at Acharya Narendra Dev Agriculture University, Faizabad.
- **Junior Research Fellow** 1999 to 2001 in Birbal Sahni Institute of Palaeosciences, Lucknow as under DST Sponsored Project (ESS/ CA/A4-22/96) entitled “The Transition of Lacustrine Faunal and Floral Communities across Pleistocene–Holocene in Jammu and Ladakh.

AWARDS AND HONOURS

- Awarded **INQUA** funded multi year project “Landuse-landcover mapping and modelling using pollen and isotopic data in different ecological regions of the monsoon” (LEM) project’s International School and Symposium-2023 .
- Awarded **CAS-PIFI Presidential Visiting Scientist Fellowship** 2016 at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **Best Paper presentation Award** in National conference on “Recent Development in Plant and Earth Sciences” on 28-29 Nov. 2013 at Birbal Sahni Institute of Palaeosciences, Lucknow.
- Awarded **CAS-TWAS (Third World Academy of Sciences) Visiting Scholar Fellowship 2012** at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **CAS-TWAS (Third World Academy of Sciences) Post Doctoral Fellowship 2010** at Institute of Botany, Chinese Academy of Sciences, Beijing, China.
- Awarded **Women Scientist Scheme (WOS-A) (SR/WOS-A/ES-18/2009)** entitled “Studies on Quaternary vegetation, climate change and human habitation in the Central Ganga Plain”.
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- Awarded **Research Associate** by CSIR, New Delhi from 2007-2010 to work on the Research project (09/107(0312)/2006-EMR-1) entitled “Holocene vegetation and climate change of the Central Ganga Plain”.
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- Awarded **Senior Research Fellowship** of CSIR from 2002 to 2004 at Birbal Sahni Institute of Palaeosciences, Lucknow and continued work from Jammu.
- Awarded **“BRPM Gold Medal”** by the Governor for the best research paper presentation in the 21st Annual Session of “Academy of Environmental Biology” on Nov. 7, 2000 at Acharya Narendra Dev Agriculture University, Faizabad.
- **Junior Research Fellow** 1999 to 2001 in Birbal Sahni Institute of Palaeosciences, Lucknow as under DST Sponsored Project (ESS/ CA/A4-22/96) entitled “The Transition of Lacustrine Faunal and Floral Communities across Pleistocene–Holocene in Jammu and Ladakh.

Paper Published

- Khan I. **Trivedi A.**, Ali S.N. Bali R. Sangode S.J. Deepak O. 2022. Late Pleistocene–Holocene vegetation and climate variability of the Western Himalaya, India, *Journal of Asian Earth Sciences*. doi: [org/10.1016/j.jseaes.2022.105245](https://doi.org/10.1016/j.jseaes.2022.105245).
- Chauhan, M S, Sharma Anupam, **Trivedi A.**, Kumar K, Ferguson, DK, Rathore, PS. 2022. Late Quaternary vegetation shifts and climate change in the sub-alpine belt of the Parvati Valley, Himachal Pradesh, India *Quaternary International* 629:53–64.
- Singh D.S., Singh A.K. Dubey, C.A. Kumar D. Sangode, S.J. **Trivedi A.** Agnihotri, R. & Singh, J. 2022. Multi-Proxy analysis in the Gangotri Glacier region, Garhwal Himalaya: An overview of retreat, geomorphic evolution, palaeoclimate signatures, and glacial stratigraphy. *Journal of Palaeontological Society of India*. 67 (1): 158–182.
- **Trivedi, A.**, Srivastava A. Farooqui, A. Khan, S. Pokharia, A.K. Ferguson, D.K., Singh, VK. 2022. Pollen morphological study in subfamily Papilionoideae using Confocal Laser Scanning Microscopy. *Journal of Palaeosciences* 71:123–142.
- Tripathi S. Srivastava J. Khan S. Farooqui A. Quamar, F. Ranhotra P.S. Garg A. Thakur B. Basumatary S.K. **Trivedi, A.**, et al., 2022 Modern pollen quantification and floristic survey in the central Ganga Plains of India: a preliminary work at Shaheed Chandra Shekhar Azad (SCSA) Bird Sanctuary of Central Ganga plain, India: a preliminary step *Journal of Palaeosciences*. 71: 159–1762
- **Trivedi, A.** 2021. Holocene vegetation, climate, and culture in Northeast India: a pollen data-based review. *Holocene Climate Change and Environment*, Springer, Book Chapter. 611–625. (Published in Elsevier book)
- Farooqui A., Pillai S.K, Agnihotri D., Khan S., Tewari R., Shukla S.K, Ali, S., **Trivedi A.**, 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*. 130:93
- **Trivedi, A.**, Ye-Na Tang, Feng Qin, Anjum Farooqui, Alexandra H. Wortley, Yu-Fei Wang, Stephen Blackmore, Cheng-Sen Li, Yi-Feng Yao. 2020. Holocene vegetation dynamics and climatic fluctuations from Shuanghaizi Lake in the Hengduan Mountains, southwestern China. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 560. <https://doi.org/10.1016/j.palaeo.2020.110035>.

- A. Farooqui, **Trivedi, A.**, G. Swindles and M.S. Chauhan. 2020. Distribution of testate amoebae (thecamoebians) in a desiccating lake, India Jour. Palaeontological Society of India. 65(1): 81-89.
- **Trivedi A.**, Chauhan M.S., Sharma A. 2020. Palaeovegetation and climatic variations in the Parvati Valley, Himachal Pradesh, India since last deglaciation; *The Palaeobotanist*. 69:63-71.
- Pokharia, A.K., **Trivedi A.**, Deepika Tripathi, Chanchala Srivastava, D.P. Tewari, Vaishali. 2020. Paleodiet, Palaeoecology and Palaeoenvironment during 1200 BCE-300 CE in the Ganga Plain: A Palaeoethnobotanical and Palynological Approach. *The Palaeobotanist*. 69: 1-25.
- Xie, G., Yao, Yi-Feng, Jin-Feng, Li, Jian Yang, Jia-De Bai, Ferguson, D.K, **Trivedi, A.**, Li, Cheng-Sen Wang, Yu-Fei. 2019 Holocene climate, dynamic landscapes and environmentally driven changes in human living conditions in Beijing. *Earth Science Reviews* 191 : 57-65.
- **Trivedi A.**, Saxena A., Chauhan, M.S., Sharma, A., Farooquii A., Nautiyal, C.M. Yao, Yi-Feng, Yu-Fi Wang, Li, Cheng-Sen and Tiwari, D.P. 2019. Vegetation, climate and culture in Central Ganga plain, India: A multi-proxy record for Last Glacial Maximum. *Quaternary International*. 507 : 25 134-147.
- **Trivedi A.**, Saxena, A., & Chauhan, M. S. 2019. Study on modern vegetation distribution in Sevan Tal area, Raebareli District, Uttar Pradesh. *Journal of Palaeosciences*, 68(1-2)), 139-146.
- Anil k. Pokharia, Pushpalata Singh, Neelam Mishra, Anoop Kumar, Upendra Singh, Alka Srivastava, **Trivedi, A.**, Himani Patel, Dipak Shukla, Chandra Bhusan Gupta and Md. Afroz. 2019. Plant micro remains from the sarethi: An early Historic site in Saryu region of Ganga Plain, Uttar Pradesh. *The Palaeobotanist* 68(1-2): 125-137.
- Lu, Kai-Qing, Xie, G. M. Li, Jin-Feng, Li. **Trivedi A.**, Ferguson, D.K, Yao, Yi-Feng, Wang, Yu-Fei. 2018. Pollen spectrum, a cornerstone for tracing the evolution of the eastern Central Asian desert. *Quaternary Science Reviews* 186 111-122.
- Lu Kai-Qing, Min Li, Guo-Hong Wang, Lian-Sheng Xu David K. Ferguson, **Trivedi, A.**, Jing Xuan Ying Feng, Jin-Feng Li, Gan Xie Yi-Feng Yao, and Yu-Fei Wang. 2018. New pollen classification of Chenopodiaceae for exploring and tracing desert vegetation evolution in eastern arid central Asia. *Journal of Systematics and Evolution*. 9999:1-10.

- Lu, Kai-Qing, Xie, G. M. Li, Jin-Feng, Li. **Trivedi A.** Ferguson, D.K, Yao, Yi-Feng, Wang, Yu-Fei. 2018. Data set of pollen morphological traits of 56 dominant species among desert vegetation in the eastern arid central Asia. Data in Brief.
- **Trivedi, A.** Kumar, V. Mishra, A. & Tripathi, R. 2017 Modern palynological census of Dunagiri Valley: Distribution and Its relationship with past vegetation and climate. *Jour. Palaeontol. Soc. India.* **62**(2):237-244.
- Saxena, A. **Trivedi, A.** and Chauhan, M.S. 2017. Pollen rain vis-à-vis vegetation relationship in Kikartal, Raebareli District, Uttar Pradesh. *Jour. Palaeontol. Soc. India.***62**(1):121-127.
- Chauhan, M.S. Farooqui, A. & **Trivedi, A.** 2017. Plants foraged by bees for honey production in northern India: The diverse flora of India and its implications for apiculture *Acta Palaeobotanica* **57**(1):119-132.
- Kumar V., Mehta, M., Mishra A. & **Trivedi, A.** 2017 Temporal fluctuations and frontal area change of Bangni and Dunagiri glaciers from 1962 to 2013, Dhauliganga Basin, Central Himalaya, India. *Geomorphology* 284:88-98.
- Saxena, A. & **Trivedi, A.** 2017. Pollen based vegetation and climate change records deduced from the lacustrine sediments of Kikar Tal (Lake), Central Ganga Plain, India. *The Palaeobotanist* 66: 37-46.
- Srivastava, G., **Trivedi, A.**, Mehrotra, R.C., Paudyal, Khum N., Limaye, Ruta B., Kumaran, K.P.N., & Yadav, S.K. 2016. Monsoon variability over Peninsular India during Late Pleistocene: Signatures of vegetation shift recorded in terrestrial archive from the corridors of Western Ghats. *Palaeogeography, Palaeoclimatology, Palaeoecology.* 443: 57-65.
- Zhang, Zhi-Yong, Harrison, P. S., Mosbrugger, V., Ferguson, D. K., Paudyal, N. K., **Trivedi, A.** & Cheng-Sen Li. 2015. Evaluation of the realism of climate reconstruction using the Coexistence Approach with modern pollen samples from the Qinghai-Tibetan Plateau. *Review of Palaeobotany & Palynology.*219: 172-182.
- Saxena, A., **Trivedi, A.**, Chauhan, M.S. & Sharma, A. 2015. Holocene vegetation and climate change in Central Ganga Plain: A study based on multiproxy records from Chaudhary-Ka-Tal, Raebareli District, Uttar Pradesh, India. *Quaternary International.* 371: 164-174.

- **Trivedi, A.**, Saxena, A & Chauhan, M.S. 2015. Modern pollen rain deposition pattern in Lashoda Tal, Raebareli District, Uttar Pradesh, India. *The Palaeobotanist*. 64: 105–112.
- **Trivedi, A.**, Chauhan M.S. & Farooqui, A. 2014. Studies on Pollen Rain vis-a-vis Vegetation Relationship and Thecamoebian Diversity in Bari Tal area, Lucknow District, Uttar Pradesh *Biological Forum–An International Journal* 6(1): 68–78.
- Chauhan, M.S., **Trivedi, A.** & Sharma, A. 2013. Pollen analysis of multifloral honeys from Lucknow, Uttar Pradesh, India. *Phytomorphology*. 63(3&4):133–141.
- **Trivedi A.**, Tiwari, D. P., Chauhan M.S. & Nautiyal C. M. 2013. Preliminary results on the palaeovegetation during Holocene–Pleistocene from Jalesar Lake, District Unnao, Uttar Pradesh. Report on Sanchankot Excavation, Department of AIH & Archaeology, Lucknow University, Lucknow.
- **Trivedi, A.**, Chauhan, M.S., Sharma, A., Nautiyal, C.M. & Tiwari, D.P.2013. Late Pleistocene–Holocene palaeovegetation and palaeoclimatic records from Central Ganga Plain: a multiproxy study from Jalesar Lake, Unnao District, Uttar Pradesh, India. *Quaternary International*. **306**:97–106.
- **Trivedi, A.** & Chauhan, M. S.2013. Holocene climatic inferences from lacustrine sediments from Jammu region. *Man and Environment*. XXXVIII(1): 74–89.
- **Trivedi A.**, Chauhan, M. S., Sharma, A., Nautiyal, C. M. & Tiwari D. P. 2012. The palaeovegetation and palaeoclimate during Pleistocene–Holocene from Jalesar Lake, District Unnao, Uttar Pradesh. *Curr. Sci.*103 (5): 555–562.
- **Trivedi, A.**, Kotlia, B.S. & Joshi, L.M. 2011. Mid Holocene vegetation shifts and climate change in the temperate belt of Garhwal Himalaya. *The Palaeobotanist*. 60:291–298.
- Chauhan, M.S. & **Trivedi, A.** 2011. Pollen analysis of honey from Lucknow district, Uttar Pradesh. *Jour. Apli. Biosci.* 37(1): 48–51.
- **Trivedi, A.**, & Chauhan, M.S. 2011. Modern Pollen rain of Jalesar Lake Unnao, Utter Pradesh. *Jour. of Palynology*. 47: 11–21.
- **Trivedi, A.**, Singh, D S., Chauhan, M. S., Arya, A., Bharadwaj, V. & Awasthi, A. 2011. Vegetation and climate change around Ropanchapratilin Deoria district, Central Ganga Plain during last 1.35 ka. *Jour. Palaeontol. Soc. India*. 54(2):39–43.
- Phartiyal, B., Appel, E., Kotlia, B. S., Blaha, U., **Trivedi, A.** & Sharma, C. 2010. Late Quaternary environments in the Kumaun Lesser Himalayas, India– deduced from multi-disciplinary techniques, *Quaternary International*, 213(1–2): 44–55.

- **Trivedi, A.** & Chauhan, M. S. 2009. Holocene vegetational history and palaeoenvironment in the Jammu region (Surinsar Lake), Northwest Himalaya. *Jour. Geol. Soc.*
- **Trivedi, A.** & Chauhan, M. S. 2008. Pollen Proxy Records of Holocene vegetation and climate change from Mansar Lake, Jammu region, India. *Curr. Sci.* 95(9): 1347-1355.
- Bera, Subir, Ghorai, N., Mandal, K. C., Bera, S. K. & **Trivedi, A.** 2004. The role of *Syphrus serarus* wied. as a pollinator in Darjeeling Hills, West Bengal, India: a palynological assessment. *Geophytology* 34 (1&2): 105-109.
- Bera, S. K., **Trivedi, A.** & Sharma, C. 2002. Trapped pollen and spores from spider webs in Lucknow environs. *Curr. Sci.* 83(12): 1580-1585.
- Sharma, C., **Trivedi, A.** and Malik, M. A. 2001. Modern pollen/spore rain in Surinsar and Mansar lakes, Jammu. *Geophytology*, 31(1&2):9-17.

NATIONAL /INTERNATIONAL CONFERENCES/TRAININGS/INVITED TALKS

- 28 National and 10 International conferences attended
- 35 Abstracts Published /Presented Papers
- Attended training on the course in Geographical formation system & species distribution modelling and (SDM) with MaxEnt and R' by Institute of biodiversity Conservation in 24th - 26th May 2019
- Attended 7 days Hands-on training programme on water resource management at CAS in Geology, Lucknow University, Lucknow at 30 May - 05 June 2023.
- attended Training on "Late Cenozoic Dinoflagellate cysts at Birbal Sahni Institute of Palaeobotany, Lucknow, India by Prof. Martin James, Brock University, Canada, 14 -o Febraury, 19 2011.
- Attended course work on Palaeosols at BSIP, Lucknow from November 06-November 12, 2013.
- Professional Geology course (including field excursion to Solan, H.P. and adjoining sites) at Lucknow University, Lucknow, Uttar Pradesh from April 21 to July, 2009.
- Attended Traing on Precambrian paleobiology : Techniques and methodology at Lucknow University under winter training Programm DST, Dec .04-25

- Invited talk on Archaeopalynology: A case study from Central Ganga Plain in Quaternary Palynology Training by Association of Quaternary Researchers, on February, 23-24, 2021.
- Invited talk on Vegetation, climate change and human impact in central Ganga plain during late Holocene period in IQC-2022, Association of Quaternary Researchers (AOQR), Lucknow, from 19-21 January 2022.
- Invited Talk on Introduction of Quaternary Palynology in Ara University Bihar, 09 August 2019.
- Invited talk on Climate water and Environment (LIMIT 2019) on Holocene vegetation and climate sequences in Bari Tal region, Central Ganga Plain during the last ca. 7000 years by International Humboldt Conference in CAS in Geology, Nainital University, Nainital 2019

ORGANISE NATIONAL AND INTERNATIONAL SYMPOSIA AND TRAINING

- Provided 5 days hands-on Training programs on the Introduction of Quaternary Palynology workshop in Ara University, Bihar, 05-09 August 2019.
- Organised 15 days International hands on training and trained the 30 national and international students on Landuse-landcover mapping and modelling, International School and Symposium, under INQUA, 13- 26 march, 2023

FIELD WORK AND PROFESSIONAL EXPERIENCES

- Principal investigator and leader of two Himachal Pradesh field expeditions
- Principal investigator and leader of three Central Ganga Plain expeditions
- Principal investigator and leader of three expeditions of central Ganga Plain visiting Archaeological sites.
- Participated as an environmental archaeologist in excavation of an Archaeological sites of Central Ganga Plain and Tamil Nadu and Jammu Kashmir regions.
- Participated in the field trip to Melu park, Beijing, China.
- Guided Students of different Universities for dissertation.

Affiliations/Positions/memberships

- Core Member of Deep Lake coring Project(QLDP),BSIP
- Core Member, Asian Biodiversity portal Committee, BSIP, Lucknow
- Fellow of "Palaeobotanical Society of India
- Life member of "Palaeontological Society of India
- Life member of "Academy of Environmental Biology
- Member of Neogene Climate Evolution in Eurasia NECLIME
- Member of Paleoclimates (PALCOM), INQUA
- Member of Terpro, INQUA

I solemnly declare that the information provided in this resume is truthful and accurate to the best of my understanding and conviction.

**Dr. Anjali Trivedi,
Scientist- E
Birbal Sahni Institute of Palaeosciences
53, University Road Lucknow-226007 Bharat**