

Nitesh Sinha

IBS Center for Climate Physics (ICCP), Busan 46241, Republic of Korea
Mobile: +821021201403 / Email: nitesh@pusan.ac.kr; o18isotope@gmail.com
Web: <https://o18isotope.wixsite.com/nitesh>
Skype: nitesh1403 Twitter: monu_gph



Research Interests:

- Paleoclimatic Reconstruction
- Isotope Hydrology
- Tropical Monsoon
- Climate Dynamics

Education:

- 2019 – Present:** Postdoctoral Research Fellow, IBS Center for Climate Physics, Busan
- 2013 - 2018:** Ph.D., Indian Institute of Tropical Meteorology (IITM), Pune, India
“Isotopic Studies of Rainfall and Its Reconstruction using Speleothems from the Indian Subcontinent”
Supervisor: Dr. S. Chakraborty
- 2012 - 2013:** Trainee Fellow, Indian Institute of Tropical Meteorology, Pune, India
- 2009 - 2012:** Department of Geophysics, Banaras Hindu University, Varanasi, India
M.Sc. (Tech.) in Geophysics (Specialization in Meteorology)
- 2006 - 2009:** Institute of Science, Banaras Hindu University, Varanasi, India
B.Sc. with Physics (Hons.)

Awards:

- 2017** PAGES Early Career Scientist’s Travel Award
2017 SERB-DST International Travel Support Grant
2017 APN Mitra Runner-Up Award
2016 INSA-DAE/BRNS-CICS Travel Fellowship
2015 Best Student Presentation Award, Indian Meteorological Society
2012 IASc-INSA-NASI Summer Research Fellowship
2011 Joint CSIR-UGC NET Certificate (Eligibility for Lectureship)
2010 Geo-Modeling Contest (2nd), Society of Exploration Geophysics

Publications:

Comas-Bru, L., Rehfeld, K., Roesch, C., Amirnezhad-Mozhdehi, S., Harrison, S. P., Atsawawaranunt, K., Ahmad, S. M., Ait Brahim, Y., Baker, A., Bosomworth, M., Breitenbach, S. F. M., Burstyn, Y., Columbu, A., Deininger, M., Demény, A., Dixon, B., Fohlmeister, J., Hatvani, I. G., Hu, J., Kaushal, N., Kern, Z., Labuhn, I., Lechleitner, F. A., Lorrey, A., Martrat, B., Novello, V. F., Oster, J., Pérez-Mejías, C., Scholz, D., Scropton, N., **Sinha, Nitesh**, Ward, B. M., Warken, S., Zhang, H., and the SISAL members (2020).

SISALv2: A comprehensive speleothem isotope database with multiple age-depth models, Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-39>.

Nitesh Sinha and S. Chakraborty (2019). Isotopic interaction and source moisture control on the isotopic composition of rainfall over the Bay of Bengal, *Atmospheric Research*, 235, 104760. doi: 10.1016/j.atmosres.2019.104760

Nitesh Sinha, S. Chakraborty, R. Chattopadhyay, B. N. Goswami et al., (2019). Isotopic investigation of the moisture transport processes over the Bay of Bengal. *Journal of Hydrology X*, <https://doi.org/10.1016/j.hydroa.2019.100021>

Nitesh Sinha, Naveen Gandhi, S. Chakraborty, R. Krishnan, M. G. Yadava, R. Ramesh, (2018). Abrupt climate change at ~ 2800 Yr BP evidenced by high resolution oxygen isotopic record of a Stalagmite from peninsular India. *The Holocene*, 28(11), 1720-1730, <https://doi.org/10.1177/0959683618788647>

Nitesh Sinha, R. Chattopadhyay, S. Chakraborty (2018) Bay of Bengal branch of Indian Summer Monsoon and its association with spatial distribution of rainfall patterns over India, *Theoretical and Applied Climatology*, doi:10.1007/s00704-018-2709-9.

Chakraborty, S., **Nitesh Sinha**, R. Chattopadhyay, S. Sengupta, PM Mohan, A. Datye (2016). Atmospheric controls on the precipitation isotopes over the Andaman Islands, Bay of Bengal. *Sci. Rep.*, 6, 19555, <https://doi:10.1038/srep19555>

Pami Mukherjee, **Nitesh Sinha**, Supriyo Chakraborty (2017). Investigating the dynamical behaviour of the Inter-tropical Convergence Zone since the last glacial maximum based on terrestrial and marine sedimentary records. *Quaternary International*, 433: 49-57.

Chakraborty S., Belekar A. R., Datye A., **Nitesh Sinha** (2018) Isotopic study of intraseasonal variations of plant transpiration: an alternative means to characterize the dry phases of monsoon. *Sci. Rep.* 8: 8647, <https://doi:10.1038/s41598-018-26965-6>

Fousiya, A., S. Chakraborty, H. Achyuthan, Naveen Gandhi, **Nitesh Sinha**, Amey Datye (2016). Stable isotopic investigation of Porites coral from the Minicoy Island. *Indian Journal of Geo-Marine Sciences*, 45(11):1465-1470.oct

Instrument Experience:

Thermo Scientific MAT253 Plus IRMS + Kiel device and Delta V plus IRMS, Laser Water/Vapor Isotope Analyzer (LGR), Underwater coral driller (Tech-2000), Micro-Mill (*New Wave Research*), The diamond band saws cutter (DRAMET-BS270), Multi component weather sensor (LI-COR), Data logger (Geonica), lab designed gas trap lines as well as vapor trap.

Programming Skills:

Operating System: LINUX Based, UNIX, Windows.

Languages and Tools: Matlab, Coral Draw, GrADS, Pyferret, NCL, Python.

Field Experience (mm/yyyy):

- Andaman Island, Bay of Bengal, India, *caving expedition* (3 days) 05/2015
- Port Blair, Andaman Island, India, *rain & vapor sampling* (146 days) 05-09/2015
- Andhra Pradesh, Peninsular India, *caving expedition* (10 days) 06/2016
- IITM campus, India, *coral driller demonstration* (7days) 01/2017
- Summer School on Speleothem Science (*S4*), CENIEH, Spain (2 days) 08/2017
- Gangwon-do province of South Korea 2019

Oral Conference Presentations:

Nitesh Sinha et al., Stalagmite stable isotope record reveals the multi-decadal periodicity in Indian monsoon and its association with natural variability, *Climate Change: The Karst Record VIII (KR8) conference*, **UTIG**, Austin, TX, **USA** 2017.

Nitesh Sinha et al., Seasonality in rainfall vis-à-vis its isotopic composition: Implications to study the monsoon withdrawal phase” in the National symposium on “*Impact of Climate Change-on Extreme Weather Events and Indian Ocean-EWEIO*” **Andhra University**, Visakhapatnam, **India** 2017.

Nitesh Sinha et al., Can the isotopic study of rainfall variability on localized scale help understand the large scale features of monsoon, *Indian Meteorological Society Meeting (IMSP)*, **IITM**, Pune, **India** 2016.

Nitesh Sinha et al., Study of intra-seasonal variation of moisture using precipitation isotopes of the Andaman Island, Bay of Bengal, *Indian Meteorological Society Meeting*, **IITM**, Pune, **India** 2015.

Training:

Participated in Advanced School on Earth System Modelling (ESM) during 18-27 July, and attended a workshop on “*Climate Change and Regional Impacts over South Asia*” during 28-29 July, 2016 at **IITM**, Pune, jointly organized by IITM, India and ICTP, Italy.

Undergone a training course on “*Advanced Statistical Concepts in Atmospheric and Ocean Sciences*” during 23-28 Feb 2015 held at **INCOIS**, Hyderabad, India.

Participated in Targeted Training Activity (TTA) on “*International Monsoon Predictability and Prediction*” January 14-25, 2013 held at **IITM**, Pune, India under collaboration with ICTP, Italy.

Other Conference Participations:

- **14** participations at international and national conferences (EGU, KR8, APN, SEG, IMSP, S4-Burgos, S4-Cluj, SISAL meeting)
 - **3** posters at international conferences (EGU, APN IGM/SPG Meeting, S4)
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Institute and Lab Services:

- Responsibility of Stable Isotope Laboratory (SIL) and Carbonate Processing Laboratory
 - Sample analysis and training for collaborative works with external institutes/researchers
 - Korea Water Isotope Network (K-WIN) member, ICCP, South Korea
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Outreach

- Peer Reviewer: Journal of Climate, Quaternary International
- Member of organizing committee for the Summer School on Speleothem Science, 2019.
- Team leader for Speleothem Isotopes Synthesis and AnaLysis (SISAL) working group for the South-East Asia region.
- Member for Korean Water Isotope Network (KWIN) program, 2020.

Memberships of Scientific Societies:

- Indian Meteorological Society - Lifetime membership
- European Geosciences Union - Student membership