

Dr. Anirban Das joined the University in December 2008 and is working as an Associate Professor. His research area lies in the field of isotope Geochemistry, Hydro-geochemistry, stable ions Environmental Chemistry, defluoridation of ground water. Prior to joining the University, he worked as a JSPS fellow at Hiroshima University (Japan), and as a postdoctoral fellow

at University of Ottawa (Canada). During his lien from the University (2010-2012), he also worked as a research associate/postdoctoral fellow at James Cook University (Australia) and at National Cheng Kung University (Taiwan)----all these positions were funded by science agencies of the respective countries. He has/had been awarded with TWO DST funded projects (60.2 Lacs) to carrying out geochemical and isotopic research on Chromium and Fluorine rich groundwater. In 2019, a project topic "Sulfuric acid mediated weathering in the Ganga, Yamuna and the Brahmaputra (GYB) River Basins: Constraints from Sulfur and oxygen isotopes in dissolved sulphate" was approved for funding by MoES; Govt. Of India; (Proposed amount 41.12 Lacs). His research interests fall in the larger domains of isotope and environmental geochemistry. His research works are published in high quality international journals, and in addition, he receives invitation to review articles/proposals submitted to international journals/Science foundations (NSF). He was/is involved in teaching of courses such as marine geochemistry, thermodynamics, kinetics, inorganic chemistry, engineering chemistry and chemistry to BTECh/MSc/BSc students.



Dr. Anirban Das
Associate Professor
PhD (Isotope Geochemistry),
PRL, Ahmedabad, 2005
Chemistry, School of Technology
Anirban.Das@spt.pdpu.ac.in

Articles/Chapters Published in the books

- 'Krishna River Basin', Springer, pp. 1-11, jul 2017

Published Papers in Journals

- Mandal, R., Das, A., Sudheer, A.K., Sanjeev Kumar, Sangeeta Verma, Mahesh Gaddam & R. D. Deshpande (2021) Sources, controls, and probabilistic health risk assessment of fluoride contamination in groundwater from a semi-arid region in Gujarat, Western India: An isotope–hydrogeochemical perspective. *Environ Geochem Health* **43**, 4043–4059 <https://doi.org/10.1007/s10653-021-00894-2>
- B. Mohanty, A. Das, R. Mandal, U. Banerji and S. Acharyya (2021) Heavy Metals in Soils and Vegetation from Wastewater Irrigated Croplands Near Ahmedabad, Gujarat: Risk to Human Health, Nature Environment and Pollution Technology, vol. 20, 163-175, <https://doi.org/10.46488/NEPT.2021.v20i01.017>
- Modeling geochemical datasets for source apportionment: Comparison of least square regression and inversion approaches', *Journal of Geochemical Exploration*, pp. 144-153, mar 2014
- 'Application of X-ray Absorption Fine Structure (XAFS) spectroscopy to speciation of Lead (Pb) contaminants in plastics', *Bulletin of Chemical Society of Japan*, pp. 341-345, Nov 2014
- 'Disproportionately high rates of sulfide oxidation from river basins of Taiwan orogeny', *Geophysical Research Letters*, pp. 39, L12404, doi:10.1029/2012GL051549, jun 2012
- 'Application of an improved ion exchange technique for the measurement of $\delta^{34}\text{S}$ values from microgram quantities of sulfur by MC-ICPMS, ', *Journal of analytical atomic spectrometry*, pp. 2088-2093, Oct 2012.

- 'Sources of sulfur in Deccan Trap rivers: A reconnaissance isotope study', *Applied Geochemistry*, pp. 301-307, mar 2011.
- 'Oxidation states of Antimony and Arsenic in marine ferromanganese oxides related to their fractionation in oxic marine environment', *Chemistry Letters*, pp. 756-757, jun 2008.
- 'Elemental geochemistry of river sediments from the Deccan Traps, India: Implications to sources of elements and their mobility during basalt-water interaction', *Chemical geology*, pp. 232-254, jul 2007.
- 'Sr and $^{87}\text{Sr}/^{86}\text{Sr}$ in rivers draining the Deccan Traps (India): Implications to weathering, Sr fluxes and the Marine $^{87}\text{Sr}/^{86}\text{Sr}$ record around K/T', *Geochemistry, Geophysics., Geosystems*, pp. 7, Q06014, doi: 10.1029/2005gc001081, jun 2006
- 'Barium in Deccan Basalt Rivers: Its abundance. Relative mobility and flux.', *Aquatic geochemistry*, pp. 221-238, sep 2006
- 'Carbon isotope ratio of dissolved inorganic carbon (DIC) in rivers draining the Deccan Traps, India: Sources of DIC and their magnitudes', *Earth and Planetary Science Letters*, pp. 419-429, jul 2005
- 'Chemical weathering of the Krishna basin and Western Ghats of the Deccan Traps, India: Rates of basalt weathering and their controls.', *Geochimica Cosmochimica Acta*, pp. 2067-2084, apr 2005
- 'High Iridium concentration of alkaline rocks of Deccan and implications to K/T boundary', *Proc. Indian Acad. Sci. (Earth Planet. Sci.)*, pp. 103-110, jun 2001

Research group:



Bibhabasu
Mohanty

Education:

Ph.D (Environmental Science) from Pandit Deendayal Energy University. He obtained his M. Tech degree (Environmental Engineering) from Vellore Institute of Technology, Vellore, Tamil Nadu (2011) and did M.Sc (Biotechnology) from MITS School of Biotechnology, Utkal University, Bhubaneswar, Odisha (2009).

Area of Interest:

Environmental quality monitoring, Water and wastewater treatment system, Solid waste management, Air pollution, Environmental audit, impact assessment and policy, Industrial waste management.

Research publications:

“Heavy metals in soils and in vegetations from wastewater irrigated croplands near Ahmedabad, Gujarat, India: Risk to human health”, Nature Environment and Pollution Technology, Vol. 20, No. 1 2021. (ISSN: 2395.3454)



Reema
Mandal

Education:

She obtained her Master's degree in Environmental science and Technology (2015) from Institute of Science and Technology for Advance Studies and Research, S.P University. Currently she is pursuing her doctoral degree since 2016.

Area of Interest:

Water-pollution, Hydro Geochemistry, Isotope Geochemistry and wetland studies.

Research publications & Awards:

“Sources, controls, and probabilistic health risk assessment of fluoride contamination in groundwater from a semi-arid region in Gujarat, Western India: An isotope– hydrogeochemical perspective in the journal Environmental Geochemistry and Health”.

Awarded grant (515 USD) from the organizers for participation in the Goldschmidt 2018 conference in Boston, USA.



Shailja Jadon

Education:

She obtained master's degree in Environmental Sciences from University of Rajasthan. Currently she is pursuing her doctoral degree from Pandit Deendayal Energy University, Gandhinagar, Gujarat.

Area of Interest:

Hydrogeochemistry, Isotope Geochemistry, Air-Pollution

Academic Achievement:

Presented research work on “ Hydrogeochemistry of Mahi River Basin” at Goldschmidt conference, Barcelona (August- 2019)



Sukanya
Acharyya

Education:

She obtained her M.Sc degree in Applied Geology (2016) from Jadavpur University. She has been working as a Ph.D. student and senior research fellow since 2018 on stable isotopes of Chromium.

Area of Interest:

Groundwater geochemistry, Environmental geochemistry, Isotope geochemistry

Academic achievements :

Qualified Gate (Geology and Geophysics) in 2017

Participated in International conference Goldschmidt 2020



Rajnee
Ranjan

Education:

She obtained master's degree in Environmental Sciences (2018) from Tezpur University, Assam. Currently, she is working as Junior Research Fellow on project stable sulphur Isotope funded by MoES.

Area of Interest:

Surface water geochemistry, Isotope geochemistry, Environmental Modelling, Aerosol.

Academic Achievement:

Qualified UGC NET - Lectureship (July 2019) in Environmental Science.



Vaishali
Chauhan

Education:

She is a PhD. Student and her research focuses on dissolution of fluoride minerals and adsorbent based defluoridation techniques. She obtained her Master's Degree (2019) in Forensic Analytical Chemistry at National Forensic Sciences University, Gandhinagar, Gujarat.

Area of Interest:

Development of adsorbent for defluoridation of wastewater, Environmental Chemistry, dye adsorption, dissolution of minerals.

Achievements:

Proposal got accepted for the SHODH (Scheme of Developing High Quality Research).
