



Professor & Dean School of Life Sciences

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## PROF. SUNIL DHAR

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### Educational Qualifications

Degree	Subject	University	Year of Passing	%	Remarks
Post Doc <sup>#</sup>	Geochemistry and Isotope Geology	University of Bern, Switzerland	1994		Awarded by Swiss Government
Ph.D <sup>*</sup>	Geology	Punjab University, Chandigarh	1991		Worked as JRF, SRF, RA in Department of Geology, PU Chandigarh
M.Sc(Hons)	Geology	Punjab University, Chandigarh	1986	66	1 <sup>st</sup> Position Gold Medalist in M.Sc. (Hons) Geology in University
B.Sc (Hons)	Geology honors with	Punjab University,	1985	65	2 <sup>nd</sup> position in B.Sc (Hons) Geology in

	Chemistry and Zoology	Chandigarh			University
12 <sup>th</sup>	Sciences	J&K Board of School Education (JKBOSE)	1982	66	
10 <sup>th</sup>	Sciences	J&K Board of School Education (JKBOSE)	1980	66	

**# Isotope Geochemistry of Jalor Granite, Malani Igneous suite, Western Rajasthan, India,**

**\*Geology and Geochemistry of Jalor Granites, Western Rajasthan, India**

### Academic profile

More than 30 year of teaching experience to undergraduate (UG) and post graduate (PG) students. Core course expert for Geology and Disaster Management courses at Regional Center Himachal Pradesh University, Dharamshala, Himachal Pradesh University, Shimla, Central University of Himachal Pradesh, Dharamshala, H.P, and Central University of Jammu, Samba, J&K, India.

- Assistant Professor, Government Post Graduate College, Dharamshala, (1993 to 2006)
- Associate Professor, Government Post Graduate College, Dharamshala, (2006 to 2017)
- Associate Professor, Central University of Jammu, J&K (2017 to 2019)
- Professor, Central University of Jammu, J&K (2019 to present)

### Experience

- Head of the Department, Post graduate Department of Geology, Govt. PG College, Dharamshala, HP (2006 to 2017)
- Head of Department (I/c), Department of Economics, Public Policy and Administration, and Supply Chain Management, Central University of Jammu, J&K (2019 to 2021)

- Head of the Department, Department of Environmental Sciences, Central University of Jammu, J&K (2020-2023)
- Head of the Department (I/c), Department of Earth Sciences, Central University of Jammu, J&K (2020-present)
- Central Vigilance Office, Central university of Jammu, J&K (2020 to present)
- Dean (I/c) School of Educational Studies, Central University of Jammu, J&K (2020 to 2021)
- Dean School of Life Sciences, Central University of Jammu, J&K (2023 to present)

## Publications

1. Kochhar, N and **Dhar, S** (1993) The Association of Hypersolvus -Subsolvus Granites. A Study of Malani igneous suite, India. J. Geol., Soc., India, v. 42, pp. 449-467.
2. Kochhar, N, **Dhar, S** and Sharma, R (1995) Tectonic significance of the acid & basic dykes associated with Jalor Magmatism. Western Rajasthan, India. Mem. J. Geol. Soc. India, pp 375-389.
3. **Dhar, S**, Frei, R, Kramers, J.D and Kochhar, N (1996) Sr. Pb & Nd isotope studies and their bearing on the petrogenesis of the Jalor and Siwana Igneous Complexes, Western Rajasthan, India. J. Geol, Soc. India v. 48, pp 151-160.
4. **Dhar, S** and Kochhar, N (1997) Mineral Chemistry of the amphiboles from Jalor ring complex Rajasthan. Indian Mineralogist, v. 31, no. 5, pp 24-30.
5. Kochhar, N and **Dhar, S** (2000) Rb - Sr Isotope dating of Neoproterozoic (Malani Group) Magmatism from South West Rajasthan, India: Evidence of younger Pan-African event by  $^{40}\text{Ar}/^{39}\text{Ar}$  studies. Gondwana Research, V.3. No. 1. pp 119-121.
6. **Dhar, S**, Kochhar, N, Gupta, L.N and Sharma, R (2001) Mineral Chemistry and evolution of Biotites from Jalor, Tosham and Jhunjhunu Igneous complexes, Malani Igneous Suite, India. J. Geol.Soc. India, V.6, pp 567-571.
7. **Dhar S**, Singh, S, Dogra, M and Kochhar, N (2002) Geological Significance of Radon in the Eco-System of Dharamshala Area, Himachal Pradesh, India. Natural Hazards & their mitigation. Spl. Vol. Bull. Indian Geologist Association, P.U. Chandigarh. V.35, no.2, pp 43-48

8. Singh, S, Sharma, D, **Dhar S** and Randhawa,S (2006) Geological significance of soil gas radon: A case study of Nurpur area, district Kangra, Himacahal Pradesh, India. Radiation Measurements,V. 41, pp 482-485
9. Kulkarni, A, **Dhar S**, Rathore, B.P, Babu, R.K and Kalia. R (2006) Glacial retreat in the upper Chandra basin: A case study of SamundraTapu Glacier, District Lahaul and Spiti, Himachal Pradesh, India. Journal Indian Remote Sensing, V.34, No.1 pp 33-46.
10. Kulkarni, A, Bahuguna, I.M, Rathore, B.P, Singh, S.K, Randhawa,S, Sood, R.K and **Dhar S**, (2007) Glacial Retreat in Himalayas using Indian Remote Sensing Satellite Data. Current Science, V 92, No.1, pp 69-74.
11. Singh, S, Sharma, D, **Dhar, S**, Kumar, A and Kumar, K (2007) Uranium, Radium and Radon Measurements in the Environs of Nurpur Area, Himacahal Pradesh. Environ. Monit. Assess, 128, pp 301-319.
12. Walia, V, Mahajan, S, Kumar,A, Singh, S, Bajwa, B.S, **Dhar S**, Yang,F.T (2008) Fault Delineation study using soil-gas method in Dharamshala area, NW Himalayas, India . Radiation measurement (2008) 43, pp 337–342.
13. Kumar,A Singh, S Mahajan, S, Bajwa, B.S and **Dhar S** (2009) Anomalous behaviour of Radon in soil and groundwater prior to Uttarakashi earthquake in NW Himalayas, India. Attidella “fondazionegiorgioronchi” ANNO LXIV, N.2, pp 173-180.
14. Kumar, A, Singh,S, Mahajan, S, Kalia, R, **Dhar S** (2009) Earthquake precursory studies in Kangra Valley of North West Himalayas, India with special emphasis on radon emission. Applied Radiation and Isotopes; 67, pp 1904-1917.
15. **Dhar S**, Kulkarni, A, Rathore, B.P, Kalia, Rajeev (2010) Reconstruction of the moraine dammed lake, based on field evidences and paleohistory, Samudra Tapu Glacier, Chandra Basin., Himachal Pradesh. Journal Indian Remote Sensing, 38, pp 133-144.
16. Mahajan,S, Walia, V, Bajwa, B.S, Kumar, A, Singh,S, **Dhar S**, Gill, G.S , Yang, F.T (2010) Soil-gas radon/helium surveys in some neotectonic areas of NW Himalayan Foothills, India. Nat.Hazards Earth syst. sci., 10 pp 1221-1227.
17. Singh, S,M Kumar, A. Bajawa, B.S, Mahajan, S, Kumar, V, **Dhar S**. ( 2010):Radon Monitoring in Soil gas and Groundwater for Earthquake Prediction Studies in North West Himalayas, India. Terrestrial, Atmospheric and Oceanic Sciences Journal, 21, no.4, pp 685-695

18. Kumar, A, Singh, S, Bajawa, B.S, Mahajan, S, Kalaia, R, **Dhar, S.** (2010) Monitoring of TDS and conductivity in groundwater in the seismically active region in NW Himalayas, India. *Earthquake Science*, 23, pp 295-299.
19. Sharma, S, Kumar, J, Kumar, A, **Dhar, S.** (2012) Measurement of anomalies in the spatial distribution of radon content of soil gas in some regions of Middle Shivaliks, India. *Advances in Applied Science Research*, 3(5), pp 3060-3063.
20. Kumar, A, Walia,V, Singh, S, Bajwa, B.S, **Dhar, S**, Yang, T.F.(2012) Earthquake precursory studies at Amritsar Punjab, India using radon measurement technique. *International Journal of Physical Science*, 7(42) pp 5669-5677.
21. Sharma, D, Kumar, A, **Dhar, S** and Singh, S (2013) Geological significance of Radon gas in soil and underground water; a case study of Nurpur and its surrounding regions, district Kangra, Himachal Pradesh, India. *Radiation Protection and Environment*, 36, no.1, pp 3-9.
22. Bahuguna, I.M., Rathore, B.P., Brahambhat, R, Sharma,M., **Dhar,S.**, Randhawa, S,S., Kumar, K., Ramshoo, S., Shah, R.D., Ganjou, R.K. and Ajai (2014): Are the Himalayan Glaciers retreating. *Current Science*, 106, no.7, pp 1008-1013.
23. Guleria, M and **Dhar, S** (2018) Landslide Study of Gaj Watershed, Beas River Basin, Himacahal Pradesh, India. *Journal of Earth Science and Climate Change*, 9(8).
24. Guleria, M and **Dhar, S** (2018) Landform Evolution and Geomorphometric Analysis of Gaj Khad Watershed, Beas River Basin, Himachal Pradesh. *Journal of Environment and Earth Science*, 8(9).
25. Sharma, A., Siddiqui, Z. M., **Dhar, S.**, Mehta, P., & Pathania, D. (2019) Adsorptive removal of congo red dye (CR) from aqueous solution by *Cornulacamonacantha* stem and biomass-based activated carbon: isotherm, kinetics and thermodynamics. *Separation science and technology*, 54(6), 916-929.
26. **Dhar, S.**, Kumar, A., & Rai, S. K. (2020) Spatio-temporal disposition of Chandra basin Glaciers from 1980 to 2011, Lahaul and Spiti Himalayan Region, Himachal Pradesh, India. *International Journal of Emerging Technology*, 11(2), 1005-1012.
27. Dogra M, **Dhar S**, Sharma N, Kumar A, Rai, SK, Prashant. (2020) A review on radon and its significance in radioactive mineral exploration and deciphering active tectonics and earthquake prediction. *Int J Adv Res Sci Eng Technol*. 7(2):2350.

28. Kour, G., Kothari, R., **Dhar, S.**, Pathania, D., & Tyagi, V. V. (2021) Impact assessment on water quality in the polluted stretch using a cluster analysis during pre-and COVID-19 lockdown of Tawi river basin, Jammu, North India: an environment resiliency. *Energy, Ecology and Environment*, 1-12.
29. Pathania, D., **Dhar, S.**, Sharma, A., & Srivastava, A. K. (2021) Decolourization of noxious safranin-T from waste water using *Mangifera indica* as precursor. *Environmental Sustainability*, 4(2), 355-364.
30. Kour, G., Kothari, R., Singh, H.M, Pathania, D., **Dhar, S** (2021) Microbial leaching for valuable metals harvesting: versatility for the bioeconomy. *Environmental Sustainability* 4, 215–229.
31. **Dhar, S.**, Randhawa, S.S., Kumar, A. *et al.* (2021) Decomposition of continuous soil–gas radon time series data observed at Dharamshala region of NW Himalayas, India for seismic studies. *J RadioanalNucl Chem* 327, 1019–1035.
32. Prashanth, M., Kumar, A., **Dhar, S.**, Verma, O., & Sharma, S. (2021) Morphometric characterization and prioritization of sub-watersheds for assessing soil erosion susceptibility in the Dehar watershed (Himachal Himalaya), Northern India. *HIMALAYAN GEOLOGY*, 42(2), 345-358.
33. Prashanth, M., Kumar, A., **Dhar, S.**, Verma, O., & Gogoi, K. (2022) Hypsometric analysis for determining erosion proneness of Dehar watershed, Himachal Himalaya, North India. *Journal of Geoscience Research*.
34. Kour, G., Tyagi, I., **Dhar, S.**, Kumari, S., Pahania, D., Kothari, R. (2023) Spatio-temporal evaluation of surface water quality of Tawi watershed in the Himalayan region of Jammu (J&K, UT) using algal pollution indices: a geospatial approach. *Environmental Monitoring and Assessment*, 195 (12), 1402.
35. Prashanth, M., Kumar, A., **Dhar, S.**, Verma, O., Rai, S. K., & Kouser, B. (2023). Land use/land cover change and its implication on soil erosion in an ecologically sensitive Himachal Himalayan watershed, Northern India. *Frontiers in Forests and Global Change*, 6, 1124677.
36. Rai, S. K., Sahu, R., **Dhar, S.**, & Kumar, A. (2023). Four decades of Glacier and Glacial Lake dynamics in Kishtwar high altitude National Park, Chenab Basin, Jammu and Kashmir, India. *Modeling Earth Systems and Environment*, 1-19.

37. Rai, S. K., Sahu, R., **Dhar, S.**, Tripathi, N., & Kumar, A.M., Kumar, A. (2024). Rapid expansion of proglacial lake and deglaciation of host glacier in Kishtwar Himalaya, Jammu and Kashmir, India from 1993 to 2020. *Himalayan Geology*, 45(1). (Accepted)
38. Rai, S., **Sunil Dhar**, Gagandeep Kour, Rakesh Sahu, Arun Kumar, Deepak Pathania, Pankaj Mehta, Dinesh Kumar. (2024). Multi parametrical analysis of Haptal Glacier, Lower Chenab basin, Jammu and Kashmir, India; A remote sensing approach *Journal of Earth System Science*. (Accepted)

### **Chapters in Books**

1. **Dhar S**, Randhawa, S, Kishore, N and Sood, R.K (2006) Lineament control and seismo-tectonic activity of the areas around Dharamsala Himalayan Frontal. Zone, Himachal Pradesh, India. Himalayas (Geological Aspects): In P.S.Sakal **ed.** SplV. 4. Satish Serial Publishing House, Delhi, pp 73-78.
2. **Dhar S**, Randwawa, S, Sood, R.K. and Dhar, B.L. (2006) Geo-environmental investigations of the Baner and Neogal watersheds, Himalayan Frontal Zone, district Kangra, Himachal Pradesh, India. Environmental Geo-Hazards “Science and Society”: In K. Sharma, S. Badoni and V. Negi **ed.** Spl. Publ. Research India Press, New Delhi, pp 87-94
3. **Dhar S** and Dhar, B.L. (2002) Geo-environmental impact of slate mining in the Dhauladhar Himalayas, District Kangra, Himachal Pradesh, India. Aspects of Geology and Environment of the Himalayas. In Charu C. Pant and Arun K. Sharma **ed.** GyanodayaPrakashan, Nainital, pp 329-334
4. Bhardwaj, A and **Dhar, S** (1993) Slate Mining at Khaniyara, Lesser Himalaya, India. An omen to mass movement. India: Geomorphological Diversity. In K.R Dikshit, Vishwas S. Kale and M.N.Kaule . Rawat Publications, Jaipur, pp. 256-267.
5. Kour G, Kothari R, Azam R, Mahji P K, **Dhar S**, Pathania D, Tyagi V.V (2021) Conducting Polymer Based Nanoabsorbents for Removal of Heavy Metal Ions/Dyes from Wastewater. In: Shahabuddin S., Pandey A.K., Khalid M., Jagadish P. (eds) *Advances in Hybrid Conducting Polymer Technology*. Engineering Materials. Springer, Cham.135-157.

6. Kour, G., Gorla, K., Pathak, A., Kothari, R., Pathania, D., **Dhar, S.**, & Tyagi, V. V. (2021) Role of Incineration in the Production of Persistent Organic Pollutants: Is It Safe?. In *Persistent Organic Pollutants in the Environment* (pp. 83-105). CRC Press.
7. Mohan, I., Gorla, K., **Dhar, S.**, Kothari, R., Bhau, B. S., & Pathania, D. (2021) Phytoremediation of Heavy Metals from the Biosphere Perspective and Solutions. *Pollutants and Water Management: Resources, Strategies and Scarcity*, 95-127.
8. Gagandeep Kour, Richa Kothari, **Sunil Dhar**, Deepak Pathania, (2021) Nanotechnology: Green option for defluorination of Drinking water. Kripa Drishti Publications V.1, 60-65.
9. Richa Kothari, Gagandeep Kour, Har Mohan Singh, Shubham Raina, Arjun Tyagi, Anita Singh, **Sunil Dhar**, Deepak Pathania & V.V. Tyagi. (2022) Climate Change and Renewable Energy: Improvements and Interpretations for Sustainable Development. In *Translational Research: Environment Studies and Climate Change*, CRC Press, Taylor & Francis, 265-283.
10. Gagandeep Kour, Richa Kothari, **Sunil Dhar**, Deepak Pathania (2022) Nanomaterials and Heavy metals: Emerging contaminants in wastewater needs monitoring, risk assessment and remediation strategies, In *Emerging Contaminants and Associated Treatment Technologies* (Springer), 21-46.
11. Gagandeep Kour, Rubia Kousar, **Sunil Dhar**, Richa Kothari, Deepak Pathania (2022) Impact of Agricultural Practices on Rivirine water quality of Tawi River Basin, Western Himalayas, J&K. *ENVIS Bulletin Himalayan Ecology*, v.30. 145-148.
12. Randhawa, S. S., **Dhar, S.**, Rathore, B. P., Kumar, R., Thakur, N., Rana, P., ...& Taloor, A. K. (2021). Moraine Dammed lakes inventory in Satluj, Ravi, Chenab and Beas Basins of Himachal Pradesh, India. In *Water, Cryosphere, and Climate Change in the Himalayas: A Geospatial Approach*, 129-144. Cham: Springer International Publishing.

## Others

### Specialisation

Tectonics, Environmental Geology, Igneous Petrology, Remote Sensing, Glaciology



### **Research Interest**

Glaciology, Seismic hazards and geochemical precursors and zonation, Remote Sensing, Geomorphology, Watershed Evolution and Management & Lunar Geology

### **Research Projects [Completed]**

1. Sunil Dhar (PI): **Monitoring of glacier terminus and Peri glacier geomorphology in Chenab basin, Himachal Pradesh** by Space Application Centre, Ahmadabad [ISRO] (Total Amount: 21 Lacs)
2. Sunil Dhar (PI): **Monitoring of glacier terminus and Peri glacier geomorphology of Benchmark Glacier in Chenab basin, Himachal Pradesh** by Space Application Centre, Ahmadabad [ISRO] (Total Amount: 20 Lacs)
3. Sunil Dhar (PI): **Geo-Environmental Investigation of Baner and Neogal Watersheds of the Himalaya Frontal Zone, Distt. Kangra H.P.** by Institute of Integrated Himalyan Studies (UGC Centre of Excellence) H.P. University, Shimla (Total Amount: 1.5 Lacs)
4. Sunil Dhar (PI): **Study of morpho-tectonic evolution of Mons Rumkar and Orientale basin of the moon** by ISRO (GOI) (Total Amount: 20 Lacs)
5. Sunil Dhar (PI): **Glacio-hydrometeorology and paleo-history of Brahma Group of Glaciers, Chenab Basin, Jammu and Kashmir** by DST (GOI). (Total Amount 60,80,193/-)
6. Sunil Dhar (PI): **Water conservation and harvesting strategies in the Himalayan region of J&K** by NITI Aayog (GOI). (Total Amount 10 Lacs)
7. Sunil Dhar (Co-PI): **“Seismo-Tectonic studies and Health Risk Assessments in the Himalayas with Special Emphasis on the Radon and Helium emission”** by DST (GOI) (Total Amount 75 Lacs).

### **Consultancy Projects (Completed)**

Carried out consultancy assignment of 300MW Gyspa Dam Hydro Electric Power Project in the Lahul and Spiti district of Himachal Pradesh, executed by HPPCL (Himachal Pradesh Power Corporation Limited) in association with Scott Wilson India, Pvt. Ltd. New-Delhi. Work was carried out on the study of GLOF's and reservoir

health of the upper Bhaga basin, in of Lahaul and Spiti region of Himacal Pradesh during 2011-2012. (Total Amount 2 Lacs).

**Research Project (ongoing)**

Sunil Dhar (PI): “**PRI based Geo-Referenced Biodiversity Assessment, Documentation and Conservation Plan of Wild Flora and Fauna of Kishtwar High Altitude National Park (KHANP)** by National Development Foundation and Department of Wildlife, Jammu and Kashmir (Total Amount: 20 Lacs)

**MoU( completed)**

Collaborative R&D studies on the earthquake precursors such as Radon in soil and water in the outer Himalayan belt of the Himachal Pradesh State in devising broad seismic zonation of the region. Studies undertaken in collaboration with State Centre of Climate Change (State Council of Science Technology and Environment,) Government of Himachal Pradesh.