

GOVIND JOSEPH CHAKRAPANI

Professor, Geology & Environment
Fellow of National Academy of Sciences of India (FNASc)
Department of Earth Sciences
Indian Institute of Technology Roorkee
Roorkee-247667, Uttarakhand, India
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- ❖ B1963, Married, Wife-Purnima (Teacher, Delhi Public School Roorkee), Son-Rahul (Studying BS at University of Washington, Seattle, USA), Daughter-Anjali (Studying in Class X, Army Public School-2, Roorkee)
- ❖ Research Objective : To Understand Recent Earth Surface Processes and Human Impacts on Environment
- ❖ Research Areas: Water, air and land environment, Global climate, Global water cycle, Himalayan Environment, Earth Resources
- ❖ Present Position: Professor, Vice-Chairman GATE-JAM 2013, 2014 (IITR), Chairman - Environment Expert Appraisal Committee (SEAC, 2008-11), Core Expert Member-River Regulation Zones (MoEF), Member, Environmental Impact Assessment Authority (SEIAA) 2013-15, Member- River Regulation Zone (MoEF)
- ❖ Education: M.Sc. (IITB), M.Phil. (JNU), Intern (USA), Ph.D. (JNU), Post-Doc (USA) (High First Class Academic Career, National Scholarship)
- ❖ Research Publications : 60+
- ❖ Theses Supervision : Ph.D: 8 (Completed), M.Tech.: 20, M.Sc.: 18
- ❖ Research Projects : 10 (Total Funds : ₹28 million)
- ❖ Assignments Abroad : Smithsonian Institution, University of Delaware (USA), IPG Paris, LMTG Toulouse, (France) Ruhr University Bochum (Germany), Academia Sinica Taipei (Taiwan), Stockholm University (Sweden), Tongji University (China)
- ❖ Commendations : Fellow, National Academy of Sciences, India (FNASc, 2012)
National Geosciences (Mineral) Award
(Environmental Geosciences, 2005), Government of India
Certificate of Merit, Smithsonian Institution, USA, 1990
- ❖ Journal Advisory Board : Gondwana Geological Magazine

- ❖ Courses Developed : Global Climate, Environmental Geochemistry, Global Biogeochemical Cycles, Applied Geochemistry, Hydrogeology
- ❖ Reviewer: Journals (Elsevier, Springer, ACS, IAHS, GSI, CS, HG etc. Reviewed since 2006 = 65), Project Proposals (DST, MoEF, NCAOR, CEFIPRA-France, MoES, Several Industries)
- ❖ Other Responsibilities : Chairman, State Expert Appraisal Committee (SEAC), Uttarakhand, Ministry of Environment and Forests, Government of India, Core Expert Member- River regulation Zones (MOEF), Member (SEIAA)-2013-15, Adjudicator of PhD thesis of IITs, ISM and Universities, Selection Advisory Board-UPSC, Department of Space (IISST),CSIR,GGs Indraprastha University, WIHG, Thapar University, Member-National Advisory Editorial Committee, Gondwana Geological Magazine, Member-National Working Group IGCP-581, Member-Scientific Advisory Board, Delta Institute (Visakhapatnam), Member- Technical Advisory Board, National Institute of Hydrology (Roorkee), Visiting Professor-VIT University, Vice-Chairman GATE-2013 and JAM-2013, Vice-Chairman GATE-2014 and JAM-2014, Member of Board of Management, University of Petroleum & Energy Studies, Dehra Dun (2012-15), Academic Council Member, Indian School of Mines, Dhanbad (2013-16).

GOVIND JOSEPH CHAKRAPANI

Professor (Environmental Geosciences)
Fellow of National Academy of Sciences of India (FNASc)
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Residence: 54/1 Amod Path
Near Central Library,IIT Campus
Roorkee-247667,Uttarakhand, India



A teacher needs to be a good human being first

PERSONAL INFORMATION

DOB:18th May 1963, Married(Wife-Purnima, Son-Rahul, Daughter- Anjali)
Nationality: Indian

RESEARCH OBJECTIVE

To Understand Recent Earth Surface Processes and Human Impacts on Environment

RESEARCH AREAS

Water, Air and Land Environment, Global Climate, Global water Cycle, Himalayan Environment, Earth Resources

EDUCATION

Ph.D. 1991 Environmental Science
Jawaharlal Nehru University, New Delhi, India

Intern, 1990, Smithsonian Environmental Research Centre
Edgewater, Maryland, USA

M.Phil.1988 Environmental Science (1st Division, 7.2/9.0)
Jawaharlal Nehru University, New Delhi, India

M.Sc. 1985 Applied Geology (1st Division, 7.74/10.0)
Indian Institute of Technology, Bombay, India

B.Sc. Geology Honors 1983 (1st Division, 71%)
Berhampur University, Berhampur, India

I.Sc. Maths, Physics, Chemistry, Geology (1st Division, 77.4%)
Berhampur University, Berhampur, India

H.S.C. Orissa Board of Education, India (1st Division, 71%)
(National Merit Scholarship 1979-85)

COURSES TAUGHT

Applied Geochemistry
Hydrogeology
Sedimentology
Thermodynamics and Phase Equilibria
Global Climate
Environmental Geosciences

COURSES DEVELOPED

Environmental Geosciences, Hydrogeology, Global Biogeochemical Cycles, Environmental Geochemistry, Applied Geochemistry, Global Climate

POSITIONS

Professor, Indian Institute of Technology, Roorkee, India (2008 onwards)

Associate Professor, Indian Institute of Technology, Roorkee, India (2003 – 2008)

Assistant Professor, Department of Earth Sciences, Indian Institute of Technology, Roorkee, India (1996 – 2003)

Maitre de Conference, IPG, Paris June-August 2001
(Associated Professor)

Professor (Invitee)/Researcher (1999-2000)
University Paul Sabatier, Toulouse
Institut de Physique du Globe, Paris

CSIR Pool Officer
1993-95, JNU, New Delhi and IIT, Bombay

Research Scientist, Hudson River Foundation
University of Delaware, USA (1991-92)

Research Fellow, Jawaharlal Nehru University (1986-91)

ASSIGNMENTS ABROAD

Visiting Professor State Key Laboratory of Marine Geology, Tongji University, Shanghai (China), November 2012
(Host: Prof. S.Yang)

Visiting Professor State Key Laboratory of Marine Geology
Tongji University, Shanghai, China 2011
(Host: Prof. S.Yang)
Key Laboratory of Marine Geology, Ocean University of China, Qingdao, China, July 2011
(Host: Prof. D.Fan)

Visiting Professor State Key Laboratory of Marine Geology
Tongji University, Shanghai, China, July 2010
(Host: Prof. S.Yang)

Visiting Scientist LMTG, Toulouse, France (June – July, 2008)
(Host: Dr. B.Dupre, Director, OBS-MIP)
Visiting Scientist, Institute of Earth Sciences, Academia Sinica, Taipei, Taiwan, 1-31st Dec2007 *(Host : Prof. Bor-Ming Jahn, Director)*

ASSIGNMENT ABROAD (Continued)

Visiting Scientist	Stockholm University, Sweden, June-July, 2007 (Host:Dr.J.Routh)
Visiting Scientist	LMTG-CNRS-UPS Toulouse, France June-July, 2005 (Host:Dr.B.Dupre)
Visiting Scientist	(INSA-DFG) Ruhr University Bochum, Germany July-September, 2004 (Host: Prof. J.Veizer, Chair)
Visiting Professor	IPG-University of Paris VII, June-August, 2001 (Host: Prof. J.Gaillardet, Deputy Chair)
Visiting Scientist	UPS, Toulouse- IPG, Paris, France January-December, 1999 (Host: Dr. B.Dupre, Prof. J.Gaillardet and Prof. C.J.Allegre)
Research Scientist	University of Delaware, USA 1991-92 (Host: Prof. R.J.Gibbs)
Intern	Smithsonian Environmental Research Centre Edgewater, Maryland, USA April-August, 1990 (Host: Dr. T.E.Jordan)

RESEARCH PUBLICATIONS

- 61.** S.Panwar and **G.J.Chakrapani**(2013) Climate change and its influence on groundwater resources, Current Science, 105 (1): 37-46
- 60.** A.Mehto and**G.J.Chakrapani**(2013) Spatio-temporal variation in the hydrochemistry of Tawa River, Central India: Effect of Natural and Anthropogenic Factors, Environmental Monitoring and Assessment, DOI: 10.1007/s10661-013-3291-3, Springer Publ.
- 59.** Mishra, M. and**G.J.Chakrapani**(2013)A Grain size model for role of tectonics and climate on sedimentation in Siwaliks in Mohand area, Accepted for publication in Geological Society of India (2nd April 2013), Springer Publ.
- 58.** P. Choudhary, J.Routh and**G.J.Chakrapani** (2013) Organic Matter Records of Historical Changes in the Watershed and Paleoproductivity in Lake Bhimtal, Kumaun Himalaya, Northwestern India,Journal of Paleolimnology, 49: 129-143, Springer Publ.
- 57.** Ali, A., Asadollah, M, Reza, M.H., Mahdi, N. and **G.J.Chakrapani** (2012) Carbonate diagenesis of the upper Jurassic succession (Oxfordian-Kimmerdgian) in the west of Binalaud-Eastern Albortz (NE Iran) (Accepted, Geological Society of India, 23/7/12)
- 56.** P.Purushothaman and **G.J.Chakrapani** (2011) Trace metals biogeochemistry of Kumaun Himalayan lakes, Uttarakhand, India, Environmental Monitoring and Assessment, DOI: 10.1007/s10661-011-2163-y, Springer Publ. ([pdf](#))
- 55.** P.Purushothaman, S.Mishra, A.Das and **G.J.Chakrapani** (2011) Sediment and hydro biogeochemistry of lake Nainital, Kumaun Himalaya, India, Environmental Earth Sciences, DOI: 10.1007/s12665-011-1123-8, Springer Publ. ([pdf](#))
- 54.** H.Gupta, **G.J.Chakrapani**, K.Selvaraj and S-J Kao (2011) The fluvial geochemistry, contributions of silicate, carbonate and saline-alkaline components to chemical weathering flux and controlling parameters: Narmada River (Deccan Traps), India. Geochimica et CosmochimicaActa 75:800-824, Elsevier Publ. ([pdf](#))

- 53.** S.K. Yadav and **G.J. Chakrapani** (2011) Geochemistry, dissolved elemental flux rates, and dissolution kinetics of lithologies of Alaknanda and Bhagirathi rivers in Himalayas, India, *Environmental Earth Sciences*, 62: 593-610, Springer Publ. ([pdf](#))
- 52.** Michelle Viswanathan and **G.J. Chakrapani** (2010) Laboratory Experiments on River-Estuary Geonanomaterials, *Current Science*, 99(2): 213-215, Springer Publ. ([pdf](#))
- 51.** S.K. Das and **G.J. Chakrapani** (2010) Assessment of metal toxicity in soils and waters from Raniganj coalfield, India, *Environmental Monitoring and Assessment*, DOI: 10.1007/s10661-010-1618x, Springer Publ. ([pdf](#))
- 50.** P. Choudhary, J. Routh and **G.J. Chakrapani** (2010) Organic geochemical record of increased productivity in Lake Naukuchiyatal, Kumaun Himalayas, India. *Environmental Earth Sciences*, 60(4): 837-843, Springer-Verlag Publ. ([pdf](#))
- 49.** G.R. Tripathy, V. Goswami, S.K. Singh and **G.J. Chakrapani** (2010) Temporal variations in Sr and $^{87}\text{Sr}/^{86}\text{Sr}$ of the Ganga headwaters: Estimates of dissolved Sr flux to the mainstream. *Hydrological Processes*, DOI: 10.1002/hyp.7572, Wiley Interscience Publ. ([pdf](#))
- 48.** P. Dubey, V. Ravikant and **G.J. Chakrapani** (2010) Strontium isotopic compositions in selected hot spring waters in northwestern Himalaya. *Himalayan Geology* 31 (1): 19-23 ([pdf](#))
- 47.** **G.J. Chakrapani** and R.K. Saini (2009) Influence of monsoon on the variations in water discharge and sediment load in the Alaknanda and Bhagirathi rivers in Himalayas, India. *Journal of Asian Earth Sciences*, 35(6) : 545-553, Elsevier Publ. ([pdf](#))
- 46.** **G.J. Chakrapani**, R.K. Saini and S.K. Yadav (2009) Chemical weathering rates in the Alaknanda-Bhagirathi river basins in Himalayas, India. *Journal of Asian Earth Sciences*, 34: 347-362, Elsevier Publ. ([pdf](#))
- 45.** P. Choudhary, J. Routh and **G.J. Chakrapani** (2009) Comparison of bulk organic matter characteristics in three Kumaun Himalayan Lakes, *Current Science*, 97(4): 372-375, Springer Publ. ([pdf](#))
- 44.** P. Choudhary, J. Routh, **G.J. Chakrapani** and B. Kumar (2009) Biogeochemical records of paleoenvironmental changes in Nainital lake, Kumaun Himalayas, India *Journal of Paleolimnology*, Springer Publ. 42(4): 571-580 ([pdf](#))
- 43.** P. Choudhary, J. Routh and **G.J. Chakrapani** (2009) An environmental record of changes in sedimentary organic matter from Lake Sattal in Kumaun Himalayas, India. *Science of the Total Environment*, 407 (8) : 2783-2795, Elsevier Publ. ([pdf](#))
- 42.** C.K. Jain, H. Gupta and **G.J. Chakrapani** (2008) Enrichment and fractionation of heavy metals in bed sediments of river Narmada, India. *Environmental Monitoring and Assessment*, 141(1-3): 35-47, Springer Publ. ([pdf](#))
- 41.** A. Skelton, L. Claesson, **G. Chakrapani**, C. Mahanta, J. Routh, M. Morth and P. Khanna, (2008) Coupling between seismic activity and groundwater chemistry at the Shillong Plateau, northeastern India. *Pure and Applied Geophysics*, 165:45-61 Birkhauser Verlag Publ. ([pdf](#))
- 40.** P. Purushothaman, A. Soren and **G.J. Chakrapani** (2008) Phosphorus fractionation in Nainital lake sediments. *Himalayan Geology*, 29(1): 73-79 ([pdf](#))

- 39.** R.K.Saini, S.Swain, A.Patra, G.J.Khanday, H.Gupta, P.Purushothaman and **G.J.Chakrapani** (2008) Water geochemistry of three Himalayan lakes: Dal lake (Jammu & Kashmir), Khajjiar (Himachal Pradesh) and Nainital Lake (Uttarakhand). Himalayan Geology, 29(1): 63-72 ([pdf](#))
- 38.** Sri KrishanYadav, **G.J.Chakrapani** and ManojK.Gupta (2008) An experimental study on dissolution kinetics of calcite, dolomite, leucogranite and gneiss in buffer solutions at temperatures 25⁰C and 5⁰C, Env.Geol.53(8):1683-94, Springer Publ. ([pdf](#))
- 37.** P.Purushothaman and **G.J.Chakrapani** (2007) Heavy metals fractionation in Ganga river sediments Environ Monit and Assess 132 :475-489, Springer Publ. ([pdf](#))
- 36.** R.K.Subudhi, **G.J.Chakrapani** and R.K.Saini (2007) Temporal variations in dissolved chemical composition in Ganga river at Rishikesh, India. Jour. Geol.Soc.India 69(6) : 1305-1312([pdf](#))
- 35.** Harish Gupta and **G.J.Chakrapani** (2007) Temporal and spatial variations in water flow and sediment load in the Narmada river. Current Science 92 (5) : 679-684 Ind. Acad.Sci. ([pdf](#))
- 34.** A.K.Patra, N.Pendkar and **G.J.Chakrapani** (2006) Heavy metals fractionation and mineralogy in sediments of Nainitallake, Kumaun Himalayas. Jour.Geol.Soc.Ind. 68:181-185 ([pdf](#))
- 33.** Ravi K.Saini, **G.J.Chakrapani** and A.K.Sen (2006) Geochemical studies of groundwater in Saharanpur, Uttar Pradesh, Jour. Geol. Soc. India 68:50-58 ([pdf](#))
- 32.** Sri KrishanYadav and **G.J.Chakrapani** (2006) Dissolution kinetics of rock-water interactions and its implications.Current Science 90(7):932-937,Ind.Acad.Sci.Publ. ([pdf](#))
- 31.** **G.J.Chakrapani** and J.Veizer (2006) Source of dissolved sulphate in the Alakananda-Bhagirathi rivers in the Himalayas Current Science 90(4):500-503, Ind.Acad.Sci.Publ. ([pdf](#))
- 30.** S.Maiti, N.K.MeenaS.J.Sangode and **G.J.Chakrapani** (2005) Magnetic susceptibility studies of soils in Delhi. Jour. Geol.Soc.Ind.66 :667-672 ([pdf](#))
- 29.** **G.J.Chakrapani** (2005) Osmium and strontium isotopic compositions in Ganga river sediments. In : Hydrological Perspectives for Sustainable Development (Allied Publ.), 990-996 pp
- 28.** **G.J.Chakrapani** (2005) Book Review: Himalayan Orogen-Foreland Interaction. Curr. Sci. 89(10): 1765-66, Ind.Acad.Sci.Publ.
- 27.** Harish Gupta and **G.J.Chakrapani** (2005) Temporal and spatial variations in water flow and sediment load in Narmada River Basin, India: Natural and man-made factors. Environmental Geology 48 :579-589 Springer-Verlag Publ. ([pdf](#))
- 26.** **G.J.Chakrapani** and Jan Veizer (2005) Dissolved inorganic carbon isotopic composition in the upstream Ganga River in Himalayas. Curr.Sci. 89(3):553-556 Ind.Acad. Sci. Publ. ([pdf](#))
- 25.** **G.J.Chakrapani** (2005) Major and trace element geochemistry in upper Ganga river in Himalayas, India, Environmental Geology 48(2):189-201, Springer-Verlag Publ. ([pdf](#))

- 24.** N.Vigier, B.Bourdon, E.Lewin, B.Dupre,S.Turner,**G.J.Chakrapani**, P.vanCalsteren and C.J.Allegre. (2005) Mobility of U-series nuclides during basalt weathering: an example from Deccan Traps, India. *Chem.Geol.* 219(1-4):69-91, Elsevier Sci.Publ. [\(pdf\)](#)
- 23.** **G.J.Chakrapani**, Deepak Dhingra and Prasun Biswas (2005) Chemical weathering by rivers in India. *IWRS Journal* 25(2):1-9
- 22.** **G.J.Chakrapani** (2005) Factors controlling variations in river sediment loads. *Current Science* 88 (4):569-575 Ind. Acad. Sci. Publ. [\(pdf\)](#)
- 21.** Harish Gupta and **G.J.Chakrapani** (2004) Variations in daily sediment loads of Narmada river. In: *Water Quality-Monitoring, Modeling and Prediction*(NIH Publ.) 31-39 pp
- 20.** D.Dhingra and **G.J.Chakrapani** (2004) Estimation of silicate weathering in Upper Ganga river in Himalayas, India. *Himalayan Geology* 25(2):139-144. WIHG Publ.
- 19.****G.J.Chakrapani**(2003) Linking of major rivers of India – Bane or Boon ?Correspondence *Jour.Geol.Soc.India* Vol. 61.Geol.Soc. Ind. Publ.
- 18.** **G.J.Chakrapani** (2002) Chemical studies of water in Kumaun Himalayan lakes. In: *Aquatic Ecosystems-Conservation, Restoration and Management*(Capital Publ.),147-53 pp
- 17.** **G.J.Chakrapani**,J.Gaillardet,B.Dupre and C.J.Allegre (2002) Osmium isotopic composition in Ganga river sediments *Current Science* 83(10):1253-1255. Ind. Acad.Sci. Publ. [\(pdf\)](#)
- 16.** **G.J.Chakrapani** (2002) Water and sediment geochemistry of major Kumaun Himalayan lakes *Environmental Geology* 43:99-107, Springer-Verlag Publ. [\(pdf\)](#)
- 15.** C.Dessert, B.Dupre,L.M.Francois,J.Schott,J.Gaillardet,**G.J.Chakrapani** and S.Bajpai 2001 Erosion of Deccan Traps determined by river geochemistry : Impact on the global climate and Sr⁸⁷/Sr⁸⁶ ratio of seawater, *Earth and Planetary Science Letters* 188 : 459-474, Elsevier Publ. [\(pdf\)](#)
- 14.** R.J.Gibbs, P.K.Jha and **G.J.Chakrapani** (2000) Clay mineralogy of the Hudson river estuary. *Northeastern Geology and Environmental Sciences* 22(1):26-30. Blackwell Publ.
- 13.** **G.J.Chakrapani** and B.C.Raymahasay (1999) Metal pollution due to mining activities. In: *Biogeochemistry of rivers in tropical south and south-east Asia*, SCOPE Publ., Hamburg), 255-260 pp.
- 12.** M.Sharma, G.J.Wasserburg, A.W.Hoffmann and **G.J.Chakrapani** (1999) Himalayan uplift and osmium isotopes in oceans and rivers. *GeochimicaetCosmochimicaActa* 63 (23/24) 4005-4012, Pergamon Publ. [\(pdf\)](#)
- 11.** **G.J.Chakrapani** and A.K.Soni (1998) Pollution due to exploitation of mineral resources. In: *Environmental Biogeochemistry* (SCOPE Publ. Hamburg), 423-432 pp
- 10.** M.Sharma,G.J.Wasserburg,A.W.Hofmann and **G.J.Chakrapani** (1998) The osmium isotopic composition of the suspended and dissolved load in the Ganges : Implications for the evolution of the seawater Os EOS 79, F519, *American Geophysical Union* Publ.
- 9.** T.Ahmad, P.P.Khanna, **G.J.Chakrapani** and S.Balakrishnan (1998)Geochemical characteristics of water and sediment of the Indus river, Trans-Himalaya, India: Constraints on weathering and erosion.*Journal of Asian Earth Sciences* 16(2-3) 333-346,Elsevier Sci. Publ. [\(pdf\)](#)

8. **G.J.Chakrapani** and V.Subramanian (1996) Fractionation of heavy metals and phosphorus in suspended sediments of the Yamuna river, India . Environmental Monitoring and Assessment 43: 117-124, Kluwer-Academic Publ. ([pdf](#))
7. **G.J.Chakrapani**, V.Subramanian, R.J.Gibbs and P.K.Jha (1995) Size characteristics and mineralogy of suspended sediments of the Ganges river, India. Environmental Geology 25: 192-196, Springer-Verlag Publ. ([pdf](#))
6. R.J.Gibbs, P.K.Jha and **G.J.Chakrapani** (1994) Sediment particle size in the Hudson estuary. Sedimentology 41: 1063-1068, Blackwell Publ. ([pdf](#))
5. **G.J.Chakrapani** and V.Subramanian (1994) Grain size distribution and mineralogy of suspended sediments of Mahanadi River. Geological Society of India 44: 541-546. Geol. Soc.Ind. Publ. ([pdf](#))
4. **G.J.Chakrapani** and V.Subramanian (1993) Heavy metals distribution and fractionation in sediments of the Mahanadi river basin, India. Environmental Geology 22:80-87, Springer-Verlag Publ. ([pdf](#))
3. **G.J.Chakrapani** and V.Subramanian (1993) Rates of erosion and sedimentation in the Mahanadi river basin, India. Journal of Hydrology 149: 39-48, Elsevier Sci.Publ. ([pdf](#))
2. **G.J.Chakrapani** and V.Subramanian (1990) Factors controlling sediment discharge in the Mahanadi river basin, India. Journal of Hydrology 117: 169-185, Elsevier Sci. Publ. ([pdf](#))
1. **G.J.Chakrapani** and V.Subramanian (1990) Preliminary studies on the geochemistry of the Mahanadi river basin, India. Chemical Geology 81:241-253, Elsevier Sci. Publ. ([pdf](#))

Ph.D. Thesis

Completed

1. Environmental Geochemistry of Narmada River Basin (Harish Gupta, 2006)
2. Paleomonsoon in NW India: An Environmental Magnetic Approach (Narendra Kumar Meena, 2007)
3. Neuro-fuzzy model application to sediment discharge in Narmada River (Ms. Nibedita Bisoyi, 2007)
4. Temporal and spatial variations on water chemistry of Alaknanda and Bhagirathi rivers of Garhwal Himalaya (Ravi Kumar Saini, 2007)
5. Determination of dissolution rates of rocks/minerals by laboratory experiments (Sri Krishan Yadav, 2007)
6. Characterisation of organic matter in sediments of Kumaun Himalayan lakes (Ms. Preetam Choudhary, 2008)
7. Nutrients and heavy metals in Kumaun Himalayan lakes (P. Purushothaman, 2009)
8. Sediment Geochemistry of Kallai River, Kerala (Ms. K.J. Resmy, 2013)

In Progress

9. Sediment load estimation in Bhagirathi river using ANN (Nandita Singh)
10. Impact of urbanization in surface and sub-surface waters in Lucknow (Anjali Singh)
11. Chemical weathering signatures in Indian Ocean Cores (Nazia Khan)

TALKS IN CONFERENCES/INVITED LECTURES

1. Application of Remote sensing techniques in Hydrology, NIH Roorkee, 1988
2. Mathematical modeling in water quality, NIH-UNESCO, New Delhi 1989
3. Metals in environment, Orlando, USA 1990
4. Mercury in environment, Gavle, Sweden 1990
5. Invited talk in Centre for Ecological Sciences, IISc, Bangalore 1990
6. Environmental Pollution due to Thermal Power Plants, NTPC, New Delhi 1991
7. Accelerator Mass Spectrometer: Applications to Earth Sciences, Institute of Physics, Bhubaneswar, 1998
8. International Seminar on Applied Hydrogeochemistry, Annamalai University, 1998
9. American Geophysical Union, San Francisco, 1998
10. Recent Trends in Environmental Biogeochemistry, JNU New Delhi, 1998
11. Geological Society of France, Paris 1999
12. Hydrological and Geochemical Processes in Large -Scale River Basins, Manaus, Brazil, 1999
13. American Geophysical Union, San Francisco, USA 2000
14. International Workshop on Geoenvironmental Hazards, New Delhi 2000
15. Eleventh Annual V.M.Goldschmidt Conference 2001, Boston USA
16. International workshop on Ecohydrology, UNESCO-JNU, New Delhi Nov 26-29, 2001
17. National workshop on Water Quality, New Delhi Feb 1-2, 2002
18. Earth Science Research, Annual General Meeting of Geological Society of India, Chandigarh October 23-25, 2002
19. Symposium on Conservation, Restoration and Management of Aquatic Ecosystems, Indian Institute of Science, Bangalore December 9-13, 2002
20. International Limnogeological Congress ILIC3, University of Arizona, Tucson, USA March 29- April 2, 2003
21. International Conference on Coastal and Freshwater Issues, Institute of Ocean Management, Anna University Dec. 8-10, 2003

- 22.** International Conference on River Bank Filtration, Department of Civil Engineering, Indian Institute of Technology, Roorkee March 1-2, 2004
- 23.** National Conference on River Links and Diversions, Jawaharlal Nehru University, New Delhi 22nd-23rd March 2004
- 24.** National Conference on Water Quality-Monitoring, Modeling and Prediction, National Institute of Hydrology, Roorkee 22nd-23rd November 2004
- 25.** International Conference on Conservation, Restoration and Management of lakes and Coastal Wetlands. Bhubaneswar. 9th -13th December 2004
- 26.** International Conference on Hydrological Perspectives for Sustainable Development, Department of Hydrology, IIT Roorkee 23rd-25th February 2005
- 27.** EU-India workshop on River Bank Filtration, Civil Engineering Department , IIT Roorkee, April 4,2005
- 28.** Invited Lecture in IIRS Dehra Dun on 1st September 2005
- 29.** Invited Lecture in Civil Engineering Department, IIT Kanpur on 19th September 2005
- 30.** International symposium on "Applied geochemistry in the evaluation and management of onshore and offshore geo-resources" Osmania University, Hyderabad 28-30th September 2005
- 31.** Indian Association of Sedimentologists National Conference on Sedimentary Basins of the Himalaya-Challenges for the Future. Wadia Institute of Himalayan Geology, Dehra Dun, 21-23, December 2005
- 32.** Indo-US Workshop on Green Chemistry, University of Delhi, Delhi 7th-9th January 2006
- 33.** 16th V.M.Goldschmidt Conference, August 27,2006-1st September 2006, Melbourne, Australia
- 34.** Brainstorming session on geochemical precursors to earthquake, Saha Institute of Nuclear Physics, Kolkata September 11-13, 2006
- 35.** 1st Uttaranchal State Science Congress, Dehra Dun (Chaired session on 'Earth Sciences'), 10-11, November 2006
- 36.** 12th World Lake Conference, Jaipur, India 28th October-2nd November 2007
- 37.** Annual Geological Society of America Meeting, Denver, USA., 2007
- 38.** Workshop on Tsunami in South China Sea, 5-7 December 2007, Academia Sinica, Taipei
- 39.** Invited Lecture at Institute of Earth Sciences, Academia Sinica, Taipei (Taiwan) on 14th December 2007
- 40.** Invited Lecture at the Centre of Earth Sciences, Indian Institute of Science, Bangalore on 10th April 2008
- 41.** International Conference on Mountain Building and Climate-Tectonic Interaction, WIHG, Dehra Dun, 23-25 October 2008

- 42.** National conference on 'Hydropower Projects in Uttarakhand : Opportunities, Challenges and Conflict-Resolutions', HNB Garhwal University, Srinagar, February 14-15, 2009, (Key Speaker)
- 43.** National workshop-cum conference on 'Environment, Energy, Occupational Health & Safety: Vital Necessity in Corporate World', MOEF & SEARCH Foundation, WWF India Auditorium, New Delhi, February 27-28, 2009 (Guest of Honor & Key Speaker)
- 44.** National workshop on 'Ground Water and Water Quality in Uttarakhand' CGWB, Dehra Dun, 19-20 March 2009 (Key Note Speaker)
- 45.** Invited Speaker, Department of Applied Geology, HS Gour Sagar University, 26th October 2009
- 46.** International Conference on 'Human Impacts on Sub-Surface Environments', Academia Sinica, Taipei, Taiwan, November 16-20, 2009 (Invited Speaker)
- 47.** International Workshop on 'Anthropogenic Impacts on Water Resources and Soils : An Indo-French Perspective', Indian Institute of Science, Bangalore, 23-25 November 2009 (Invited Speaker)
- 48.** Invited Speaker, TERI University, New Delhi-Indira Gandhi National Forest Academy, Dehra Dun, 17th February 2010
- 49.** International Conference on 'Evolution of Asian River Systems Linking to Cenozoic Tectonics, Climate and Global Geochemical Cycles' Nanjing University, China, 8-9th May 2010 (Chaired a session on 'Drainage Development: Tectonic and Climatic Constraints)
- 50.** Invited Talks, State Key Laboratory of Marine Geology, Tongji University, China (3rd July 2010, 5th July 2010)
- 51.** Invited Talk, IGCP-581, Geological Survey of India (2nd November 2010)
- 52.** National Seminar on "Drilling Technology", Institute of Drilling Technology, ONGC, Dehra Dun, 25-26 April, 2011
- 53.** Key Speaker, State Action Plan on Climate Change (SAPCC-Uttarakhand), Dehra Dun (WWF), 7th May 2011
- 54.** Guest of Honour, World Environment Day, 2011, CSIR-Central Building Research Institute, Roorkee (5th June 2011)
- 55.** Dialogue initiation meet on "Mitigation and remedy of ground water arsenic menace in India", 24th June 2011 (NIH-CGWB), New Delhi
- 56.** Invited Talk at State Key Laboratory of Marine Geology, Tongji University, Shanghai, China, 6th July 2011
- 57.** Invited Talk at Key Laboratory of Marine Geology, Ocean University of China, Qingdao, China, 8th July 2011
- 58.** Invited Talk at School of Environment and Natural Resources Management, Doon University, Dehra Dun, 27th July 2011
- 59.** Invited talk at Delta Studies Institute, Visakhapatnam, 23rd September 2011
- 60.** Invited talk at Geology Department, Andhra University, 24th September 2011

- 61.** International Conference on Asian Marine Geology-7, NIO Goa, 10-14 October 2011
- 62.** Invited talk at the workshop on "Hydrogeochemical modeling assessment and management of urban and coastal groundwater" at School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, 19th October 2011
- 63.** Invited talk at the national conference on "Recent advances and future challenges in Geochemistry and Geophysics" Banaras Hindu University, Varanasi 22-24 February 2012
- 64.** Invited talk (INSPIRE, DST), Shobhit University, Meerut, 18th June 2012
- 65.** Guest Lectures, State Key Laboratory of Marine Geology, Tongji University, Shanghai (China) 6-14 November, 2012
- 66.** Invited Talk, Indo-Norwegian Conference on Enhanced Oil Recovery and CO₂ sequestration, (NGRI Hyderabad), 26-28 November 2012

COMMENDATIONS

- ❖ Certificate of Merit 1990, Smithsonian Institution, USA
- ❖ Letter of appreciation (star performance) from Director, IIT Roorkee for excellence in academic and research performance 2003-04, 2005-06
- ❖ Letter of appreciation for a research paper, 2005- from Amy Young, Program Coordinator "Planet Earth" BBC London
- ❖ National Geosciences Award (Environmental Geosciences), 2005, Ministry of Mines, Government of India
- ❖ Fellow, National Academy of Sciences, India (FNASc, 2012)

M.Tech./M.Sc. DISSERTATIONS

M.Tech. Dissertations

- 1.** Groundwater quality in parts of Muzaffarnagar District, U.P. with special reference to chemical evolution (Ruchindra Singh, 1996)
- 2.** Geochemical and Pb-210 studies on Nainital Lake sediments, Kumaun Himalaya (Anurag Pattnaik, 1997)
- 3.** Effect of weathering on Luminescence dating (Praveen Akhouri, 1998)
- 4.** Assessment of soil erosion from Pun Pun Sub basin (R.Saravanan, 2001)
- 5.** Impact of urban pollution in the Adyar river and the adjacent groundwater in Chennai city (G.V.Suresh, 2001)
- 6.** Chemical weathering studies in upstream Ganga river basin (Deepak Dhingra, 2002)
- 7.** Chemical composition and mineralogy of Nainital lake sediments (AshisPatra, 2002)
- 8.** U-Th series nuclides in sediments and water column of northern Indian Ocean (A. Deymunsh, 2003)
- 9.** Ground water quality studies in Saharanpur (Ravi K. Saini, 2003)

- 10.** Geoenvironmental studies in Raniganj Coal Fields, West Bengal (Supriyo Kuamr Das, 2003)
- 11.** Monitoring of heavy metal loading in Dehi soil: Environmental magnetism and geochemical approach (Sabyasachi Maiti, 2004)
- 12.** Application of neural network to river chemical weathering with special reference to Ganga River at Rishikesh (Ranjit Kumar Subudhi, 2004)
- 13.** Rock/mineral Dissolution Rate Experiments (Manoj Kumar Gupta, 2006)
- 14.** Phosphorus Fractionation in Nainital Lake Sediments (Anand Soren, 2006)
- 15.** Dissolved heavy metals in Kumaon Himalayan lakes (Suyash Misra, 2008)
- 16.** Phosphorus in sediments of Kumaon Himalayan Lakes (Anindya Das, 2008)
- 17.** Role of tectonics and climate on sedimentation in parts of Mohand area, Dehradun sub-basin (Manas Mishra, 2012)
- 18.** Spatio-temporal variation in the hydrogeochemistry of Tawa River, Central India (Ashwini Mehto, 2012)
- 19.** Water and soil quality assessment of Talcher coalfield areas (Ms. Pranati Mohanty, 2013)
- 20.** Grain size distribution of suspended sediments in Alaknanda river (Ms. K.J. Archana, 2013)

M.Sc. Dissertations

- 1.** Grain size and mineral composition of Indus river sediments (Rudradeb Bhattacharya, 2002)
- 2.** Global carbon dioxide consumption by silicate weathering (Prasun Biswas, 2003)
- 3.** Dissolved load characteristics of the Upper Ganga River (Ms. Swagata Chatterjee, 2004)
- 4.** Water chemistry of Khajjiar lake in Himachal Pradesh (Saraswat Swain, 2005)
- 5.** Water Quality Studies in Kanpur City (Vinay Babu, 2006)
- 6.** Coupling Hydrogeochemistry and Seismic Activity at a Location in Assam, India (Abdul Wahid, 2006)
- 7.** Water Quality Studies in Roorkee (Viren Fernandes, 2006)
- 8.** Estimation of Sediment Load at Lambagad, Alaknanda River (Diptaroop Chakraborty, 2007)
- 9.** Geochemistry of hot spring waters (Prashant Dubey, 2008)
- 10.** Laboratory experiments on river geomaterials (Ms. M. Viswanathan, 2009)
- 11.** Sediment loads in selected locations on the Alaknanda and Bhagirathi rivers (Ashutosh Mishra, 2009)

- 12.** Variation in sediment load and mineralogy in downstream of Mahanadi River (A.D.Mohanty, 2010)
- 13.** Sediment pollution indices in Ganga River (Hrishikesh Kumar, 2011)
- 14.** Water quality in Ganga River (Saurabh Jayaswal, 2011)
- 15.** Estimation of chemical weathering of source rock of Narmada River (Subhra Mullick, 2012)
- 16.** Variation in total organic matter in bed sediments of Tawa River (Bishnu Prasad Mishra, 2012)
- 17.** Size characterization of bed sediments of Alaknanda River (Ms. Puspita Tripathy, 2013)
- 18.** Estimation of chemical weathering of source rocks in Alaknanda River basin (Pratap Tapan Sahoo)

Post-Doc(CSIR-RA)

- 1.** Dr.J.Sahoo (1997-99)

RESEARCH PROJECTS

- 1.** Water and sediment pollution indices in Kumaun Himalayan Lakes (AICTE, 2001)
- 2.** Modernisation of Laboratory (MHRD, 2003)
- 3.** Environmental pollution in Ganga River: A study of trace element speciation (MHRD, 2006)
- 4.** Dissolution rates of lithologies from Alaknanda-Bhagirathi river basins : Implications for chemical weathering processes (DST, 2007)
- 5.** Sedimentary record of human-induced environmental changes and affects in the Kumaun Himalayan Lakes, India (VR-SIDA, Sweden, 2008)
- 6.** Assessment of toxic pollutants in Kumaun Himalayan Lakes : Past and present pollution indices from studies of sediment cores (MoEnF, 2008)
- 7.**Hydrogeochemistry of Surface and Ground Waters, Erosion Rates and Carbon-Nitrogen Fluxes in Riverine Environment of Sub-Himalayan and Lesser Himalayan Catchments (ISRO-GBP, in collaboration with IIRS Dehra Dun, 2009)
- 8.** Arsenic contents in deep and shallow aquifer materials in UP (UNICEF-UPJNL, 2009)
- 9.** Documentation on Bore Blasting Technology (UNICEF, In Progress)
- 10.** Dissolution Rates of Deccan Basalts and other Lithologies in the Narmada River Basin (DST, 2010, In Progress)
- 11.** Geochemical evolution of ground water in a limestone-granite terrain underground research laboratory site, Gulbarga District, Karnataka (BRNS, 2012, In Progress)

Journal Paper Reviewer*(Total manuscripts reviewed since 2006 = 66)*

Geochimica et Cosmochimica Acta (Pergamon), Journal of Hydrology (Elsevier), Journal of Geochemical Exploration (Elsevier), Journal of Asian Earth Sciences (Elsevier), Journal of Earth Systems Sciences (Springer), Industrial & Engineering Chemistry Research (American Chemical Society), Environmental Monitoring and Assessment (Springer), Hydrological Sciences Journal (IAHS Publ.), Journal of Water Resource and Protection, Geological Society of India, Current Science Indian Water Resources Society, Hydrology Journal, Journal of Geochemistry, Gondwana Geological Magazine, Himalayan Geology, African Journal of Biotechnology, International Journal of Environmental Analytical Chemistry, Indian Journal of Geo-Marine Sciences, Geoscience Frontiers, Estuarine and Coastal Shelf Science

Journal Advisory Board

Member, National Advisory Editorial Committee, Gondwana Geological Magazine

Project Proposals Reviewer

Department of Science and Technology (DST), Ministry of Environment & Forests (MoEF), CEFIPRA (France), NCAOR (Goa), Ministry of Earth Sciences (MoES), Several Industries

Visits Abroad

- ❖ USA 1990 (Smithsonian Institution, USA)
- ❖ USA 1991 (University of Delaware)
- ❖ France 1999 (University Paul Sabatier, Toulouse and IPG Paris)
- ❖ France 2000 (IPG, Paris)
- ❖ Bangladesh 2000 (Jehangir University)
- ❖ France 2001 (IPG, Paris)
- ❖ USA 2003 (University of Arizona)
- ❖ Germany 2004 (Ruhr University Bochum)
- ❖ France 2005 (University Paul Sabatier, Toulouse)
- ❖ Australia 2006 (University of Melbourne)
- ❖ Sweden 2007 (Stockholm University)
- ❖ Taiwan 2007 (IES, Academia Sinica, Taipei)
- ❖ France 2008 (LMTG, Toulouse)
- ❖ Taiwan 2009 (IES, Academia Sinica, Taipei)
- ❖ China 2010 (Nanjing University, Nanjing)
- ❖ China 2010 (Tongji University, Shanghai)
- ❖ China 2011 (Tongji University, Shanghai, Ocean University of China, Qingdao)
- ❖ China 2011 (Nanjing University)
- ❖ USA 2012 (University of Washington)
- ❖ China 2012 (Tongji University)

Other Academic-Related Activities

- ❖ Chairman, Uttarakhand State Environment Expert Appraisal Committee (SEAC), Ministry of Environment and Forests (Government of India Gazette Notification No.S.O. 2244(E), 22/9/2008)

- ❖ Thesis Examiner : IIT Kharagpur, JNU New Delhi, Osmania University, University of Kerala, Salim Ali Insitute, Berhampur University, IIRS Dehra Dun, HNB Garhwal University, Sagar University, University of Kashmir, VIT University, Vellore, IITB, Mumbai, Anna University
- ❖ Selection Committee Advisor : UPSC, New Delhi , CMFRI, Dhanbad, Department of Space (IISST, Thiruvananthapuram), Guru Gobind Singh Indraprastha University, New Delhi, WIHG Dehra Dun
- ❖ Course Examiner : Banaras Hindu University, University of Kashmir, Srinagar
- ❖ Member, Institute Library Committee 2000-2003, Institute Security Committee 2001- 2006, Institute Cultural Council, 2000-2004, Advisory Committee, Continuing Education Centre 2005-Till Date, Institute Science Day Celebrations 2004, 2006,2009, Deputy-Chief Advisor, Himalayan Explorers' Club, 2006-11, Chief Advisor-Himalayan Explorers' Club, 2010 onwards, Earth Sciences Department Research Committee 2004 - Till Date, Board of Research 2008- Till Date
- ❖ Faculty-In-Charge: Department Library 2000-2003,Geochemistry Laboratory 2001-Till Date, Department Time Table 2005-06, Department Examinations 2005-06, Department Museum, 2008- Till Date, Department Stores 2006-09, Sedimentology Lab 2010-Till Date
- ❖ National Working Group Member, IGCP-581 (Evolution of Asian River Systems, 2009-14)
- ❖ Core Group Member, Uttarakhand State Action Plan on Climate Change (SAPCC), May 2011
- ❖ Core Expert Member, River Front Management (MoEF), May 2011
- ❖ Member, Scientific Advisory Board, Delta Institute (Visakhapatnam)
- ❖ Member, Technical Advisory Board, National Institute of Hydrology (Roorkee)
- ❖ National Advisory Committee Member on National Seminar on "Recent advances and future challenges in Geochemistry and Geophysics: the Indian scenario" from 22 to 24 February, 2012 at BHU, Varanasi
- ❖ Guest of Honor, World Environment Day (5th June 2011), CSIR-CBRI, Roorkee
- ❖ Chairman, Department Research Committee (2012 Onwards)
- ❖ Member, IPR Cell, IIT Roorkee

- ❖ Visiting Professor, VIT University, Vellore
- ❖ Acted as Head, Department of Earth Sciences, IIT Roorkee
- ❖ INSPIRE (DST) talk at Shobhit University on 18th June 2012
- ❖ Vice-Chairman, GATE-2013, JAM-2013
- ❖ Member of Board of Management, University of petroleum & Energy Studies, Dehra Dun
- ❖ Visited University of Washington, Seattle, USA 10-15 September 2012
- ❖ Chairman, Coordination Committee, 1st Prof. R.S.Mithal Memorial Lecture, 3rd October 2012, Department of Earth Sciences, IIT Roorkee
- ❖ Selection Committee Advisor, ISM Dhanbad, 2013
- ❖ Member, Institute Academic Research Committee, IIT Roorkee
- ❖ Member, Uttarakhand State Environment Impact Assessment Authority (SEIAA, 2013-15)
- ❖ Selection Committee Advisor, Thapar University, Patiala, 2013
- ❖ Vice-Chairman, GATE-2014, JAM-2014
- ❖ Academic Council Member, Indian School of Mines, Dhanbad (2013-16)
- ❖ Member, Institute Academic Research Committee (2013-15)

SOME PHOTOS

