

CURRICULUM-VITAE

DR. PARMANAND SHARMA

Scientist D

Cryosphere Science Division,

Email: pnscharma@ncaor.gov.in ; pnsjnu@gmail.com

Phone: 8832-2525603; Mob. +91 8390807194

AREA OF RESEARCH:

Glaciology /Hydrology

ACADEMIC PROFILE:

- 2008 Ph. D., Glaciology (Environmental Science), Jawaharlal Nehru University, New Delhi, India
2002 M. Phil., Glaciology (Environmental Science), Jawaharlal Nehru University, New Delhi, India
2000 M. Sc., Environmental Science, Jawaharlal Nehru University, New Delhi, India
1998 B. Sc., Agricultural Eg. , Allahabad University, Allahabad , India
1993 B. Sc. (Hons.), Magadha University, Bodha Gaya, India

PROFESSIONAL CAREER

- 2012 Scientist- D, National Centre for Antarctic & Ocean Research, Goa.
2012 Research Scientist-D, National Centre for Antarctic & Ocean Research, Goa.
2009 Scientist-B, Jawaharlal Nehru University, New Delhi.
2008 Research Associate, Jawaharlal Nehru University, New Delhi.
2007 SRF, Jawaharlal Nehru University, New Delhi
2004 Research Assistant, Jawaharlal Nehru University, New Delhi
2002 JRF, Jawaharlal Nehru University, New Delhi

AWARDS/HONORS

- 2011 CSIR NET in Earth Science
1998 MCM Scholarship, Jawaharlal Nehru University
1983 National Merit Scholarship

SCIENTIFIC EXPEDITIONS

- Member of Indian Scientific Arctic Expedition (summer) for year 2014, 2013, 2012 and 2011
- Station coordinator and member of Indian Arctic Expedition for winter 2014 and 2012
- Member of Indian Scientific Arctic Expedition (winter) 2011
- Team leader of Himalayan Scientific Expedition for year 2014, 2012
- Member of Himalayan Scientific Expedition 2013

SIGNIFICANT CONTRIBUTIONS & ACHIEVEMENTS

- Pioneered the mass balance studies in Indian Himalaya using steam drill to understand glacier – climate inter-relationship
- Participated in various expedition to Himalaya and Arctic
- Made substantial contributions to the field of glacier studies in Himalaya

RESEARCH PUBLICATIONS

A. JOURNALS/ PEER-REVIEWED PUBLICATIONS

Virendra Bahadur Singh, AL. Ramanathan and **Parmanand Sharma (2015)** Major ion chemistry and assessment of weathering processes of the Patsio glacier meltwater, Western Himalaya, India, **Environ Earth Sci** , 73:387–397; DOI 10.1007/s12665-014-3432-1

P. G. Jose , AL. Ramanathan, **Parmanand Sharma**, Virendra Bahadur Singh , M. F. Azam and Anurag Linda (2014). "Characterization of subglacial pathways draining two tributary meltwater streams through the lower ablation zone of Gangotri Glacier, Garhwal Himalaya, India", **Current Science**, 107(4): 613-621, 2014

Parmanand Sharma, AL. Ramanathan, P. G. Jose (2014). Study of solute sources and evolution of hydro geochemical processes of the Chhota Shigri Glacier meltwaters, Himachal Himalaya, India, **Hydrological Sciences Journal**, 58(5), 1128-1143, 2013; doi: 10.1080/02626667.2013.802092

Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, Anurag Linda, and **Parmanand Sharma (2013)** *Temporal variation in the major ion chemistry of Chhota Shigri glacier meltwater, Lahaul-Spiti Valley, Himachal Pradesh , India* , **National Academy of Science Letters (May-June 2013)**, 36(3): 335-342 ;doi: 10.1007/s40009-013-0135-1

Virendra Bahadur Singh, AL. Ramanathan, **Parmanand Sharma** and Jose George Pottakkal (2013) Dissolved ion chemistry and suspended sediment characteristics of meltwater draining from Chhota Shigri Glacier, western Himalaya, India, **Arabian Journal of Geosciences**, doi :10.1007/s12517-013-1176-y

C. Vincent, Al. Ramanathan, P. Wagon, D. P. Dobhal, A. Linda, E. Berthier, **Parmanand Sharma**, Y. Arnaud, M. F. Azam, P. G. Jose, and J. Gardelle¹ (2012). Balanced conditions or slight mass gain of glaciers in the Lahaul and Spiti region (northern India, Himalaya) during the nineties preceded recent mass loss , **The Cryosphere**, 7, 569–582, 2013; doi:10.5194/tc-7-569-2013.

- Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, **Parmanand Sharma**, Anurag Linda, Mohd. Farooq Azam and C. Chatterjee (2012). *Chemical characterisation of meltwater draining from Gangotri Glacier, Garhwal Himalaya, India*. **Journal of Earth System Sciences**, Vol. 121(3), 625-636.
- Mohd. Farooq Azam, Patrick Wagnon, Alagappan Ramanathan, Christian Vincent, **Parmanand Sharma**, Yves Arnaud, Anurag Linda, Jose George Pottakkal, Pierre Chevallier, Virendra Bahadur Singh, Etienne Berthier (2012). From balance to imbalance: a shift in the dynamic behaviour of Chhota Shigri Glacier (Western Himalaya, India), *Journal of Glaciology*, *Journal of Glaciology*, Vol. 58, No. 208,pg.315-324; **doi: 10.3189/2012JoG11J123**
- Sudarshana Sharma, **Parmanand Sharma**, A.K. Bhattacharyya (2010). Accumulation of heavy metals in wheat (*Triticum aestivum*) Seedlings grown in soils amended with electroplating industrial sludge. *Comm. Soil Sc. Plant Anal.* 41: 1-12.
- Sudarshana Sharma, **Parmanand Sharma**, Poonam Mehrotra (2010). Bioaccumulation of heavy metals in *Pisum sativum* growing in fly ash amended Soil. *J of American Sciences*. 6(6): 43-50.
- Sudarshana Sharma, **Parmanand Sharma**, Sazada Siddiqui, A.K. Bhattacharyya (2010). Effect of Metal Pickling and Electroplating Industrial Sludge-Borne Heavy Metals on Wheat (*Triticum aestivum*) Seedling Growth. *Nature and Science*. 8(3): 1-8.
- Sudarshana Sharma, **Parmanand Sharma**, Shanakari, P, Datta, Varsha Gupta (2009). Morphological and Biochemical Response of *Cicer arietinum* Var.-Pusa-256 towards an increase of Zinc Concentration. **African J of Basic and Applied Sc.** 1 (5-6): 105-109.
- Parmanand Sharma**, Al. Ramanathan, Anurag Linda, Jose George Pottakkal, Shruti ,Patrick Wagnon, Yves Arnaud and Pierre Chevallier, (2008). Preliminary Studies on the Mass Balance of Chhota Shigri glacier, Himachal Pradesh, India. *Annals of Glaciology*, Special volume.
- Patrick Wagnon, Anurag Linda, Yves Arnaud, Rajesh Kumar, **Parmanand Sharma**, Christian Vincent, Jose George Pottakkal, Etienne Berthier, Alagappan Ramanathan, Syed Iqbal Hasnain and Pierre Chevallier, (2007). *Four years of mass balance on Chhota Shigri glacier, Himachal Pradesh, India, a new benchmark glacier in the Western Himalaya*, *Journal of Glaciology*, Vol. 53, No. 183,pg.603-611.

Rajesh Kumar ,Syed I. Hasnain , Patrick Wagnon, Yves Arnaud, Pierre Chevallier, Anurag Linda, and **Parmanand Sharma** (2007). Climate Change Signals Detected Through Mass Balance Measurements On Benchmark Glacier, Himachal Pradesh, India. International Hydrological Programme (IHP), 22-24 November, 2005, Montpellier, France, Volume-80, 65-72.

B. PAPERS IN CONFERENCE/SYMPOSIA

Sharma, P., Ramanathan, AL., Jose, P., Linda, A., Singh, V.B., Azam, F, 2011. Varying signal of Climate Change impact in Himalayan glacier: a case study of Chhota Shigri glacier, Western Himalaya, India, Humboldt Kolleg and International Conference “Earth-Future”, 7-9 September 2011, Salem, India (accepted)

Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, **Parmanand Sharma**, Anurag Linda 2010 Climate Change Impact on Chhota Shigri Glacier, Lahaul-Spiti Valley, Himachal Pradesh, India, proceeding paper (ISBN: 978-93-80697-25-3) on International Conference on Emerging Technologies for Sustainable Environment held from 29-30 October 2010 at Department of Civil Engineering , Z.H College of Engineering & Technology, A.M.U, Aligarh. Pg.201-206.

Anurag Linda, AL. Ramanathan, **Parmanand Sharma** and P.G.Jose, 2010: The Danger of Retreating Himalayan Glaciers and GLOF, National level workshop on geomatic based natural resources disaster mitigation and managements (GEO DIMMS) held from 22-26 February at Tamil University, Thanjavur.

Parmanand Sharma, AL. Ramanathan, Sudarshana Sharma, Anurag Linda and P.G Jose 2010. Impact of landslide and Landslide Lake Outbursts Flood (LLOF) in the Himalayan region, National level workshop on geomatic based natural resources disaster mitigation and managements(GEO DIMMS) held from 22-26 February at Tamil University, Thanjavur.

AL. Ramanathan, **Parmanand Sharma**, Anurag Linda, and Jose George Pottakkal, 2009. Impact of Climate Change on The Meltwater Discharge of The Chhota Shigri Glacier, Himachal Pradesh, India. Proceedings Paper, Symposia on Impact of climate change held from 27-28 May, 2009 at National Hydraulic Research Institute of Malaysia (NAHRIM).

Anurag Linda, A.L. Ramanathan, **Parmanand Sharma**, G. Senthil Kumar, Shruti and P.G. Jose, 2008. Mass Balance Studies using Field Data in Chhota Shigri Glacier, HP, India. Proceedings paper, International Workshop: Snow, Ice, Glacier and Avalanches, 7-9 January 2008, IIT Mumbai.

A.L. Ramanathan, Shruti, P.G. Jose, **Parmanand Sharma** and Anurag Linda, 2007. Glacier retreat of Himalayas in the recent past (Pleistocene to Recent Decade), International Workshop (IGCP-514) on Fluvial and Marine Processes of Cenozoic and Formation of Placers, 1-10 November, 2007, Thiruvananthapuram and Goa, Centre for Earth Sciences Studies, Thiruvananthapuram. pg-51-53

Ramanathan, AL., **Parmanand Sharma**, and Jose, P.G., 2007. Factors controlling suspended sediments transport in the Chhota Shigri glacier meltwaters, Himalaya. International Workshop on Complex System in fluid flows and Sedimentation Processes (IWCSFFSP-07), 27-31 August 2007, ISI, Kolkata.pg.36-38.

C. ABSTRACT IN CONFERENCE/SYMPOSIA

Parmanand Sharma, Rasik Ravindra, Lavkush Patel, Ajit Kumar and Thamban Meloth 2014. The changing Himalayan Cryosphere and likely consequences: an overview of Chandra Basin, 16th Annual Conference of the International Association for Mathematical Geosciences 17-20 October, 2014, New Delhi

Parmanand Sharma and Rasik Ravindra Impact on Regional Water resources as a result of glacier thinning induced by climate change in Himalayan Region,2014. National Conference on Aquatic ecosystems and their management: Recent trends and future perspectives, 21st -23rd March , 2014, Central University of Bihar, Patna, page-17.

Parmanand sharma, Ajeet kumar, Arun Chaturvedi, Mahalingnathan K., Ajai kumar, Asit Swain, Rasik Ravindra , S Rajan 2013. Analysis of monthly variation of Mass balance and Equilibrium line Altitude at Vestre Broggerbreen glacier, Ny-Alesund , Svalbard, accepted in The Arctic Science Summit Week(ASSW) 2013-abstract, Kraków – Poland.

Parmanand Sharma & AL. Ramanathan, 2011. Assessment of solute load and sediment load from Chhota Shigri glacier catchment to Chandra river vbasin , Lahaul –Spiti valley , Himachal Pradesh, National seminar on Modern and palaeo sediments: Implication to climate, water resources and environmental changes & XXVIII Convention of Indian Association of Sedimentologists, 24-26 November, 2011 at Jawaharlal Nehru University, New Delhi, pg. 35.

Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, **Parmanand Sharma** & Anurag Linda 2010. Effects of climate change on the major ion chemistry of meltwater of Chhota Shigri glacier, Lahaul-Spiti valley, Himachal Pradesh, India. International Conference on Climate Change and Environment held from 24-26 October 2010 at Coachi University of Science and Technology, Kochi, Kerala.pg.49.

Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, Manoj Kumar, **Parmanand Sharma** & Anurag Linda 2010. Impact of climate change on hydrochemistry of Gangotri glacier, Garhwal Hiamalya, India International Conference on Climate Change and Environment held from 24-26 October 2010 at Coachi University of Science and Technology, Kochi, Kerala.pg.48.

- Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, **Parmanand Sharma**, Anurag Linda 2010 Climate Change Impact on Chhota Shigiri Glacier, Lahaul-Spiti Valley, Himachal Pradesh, India, proceeding paper (ISBN: 978-93-80697-25-3) on International Conference on Emerging Technologies for Sustainable Environment held from 29-30 October 2010 at Department of Civil Engineering , Z.H College of Engineering & Technology, A.M.U, Aligarh. Pg.201-206.
- Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, **Parmanand Sharma** 2010 Chemistry of melt water draining from snout of Gangotri glacier, Garhwal Himalaya, India, National seminar on Global Environmental Issues and Climate Change from 9-10 November at AV college for women, Chandigarh.pg.14.
- Parmanand Sharma**, Alagappan Ramanathan and Pottakkal Jose, 2009. Factors controlling the snow chemistry in Chhota Shigri Himalayan glacier, HP, India, Geophysical Research Abstracts, Vol.11, EUG2009-4817-1,2009 in European Geosciences Union General Assembly 2009 Vienna, Austria, 19 – 24 April 2009.
- Parmanand Sharma**, AL Ramanathan, Anurag Linda, PG. Jose,Patrick Wagnon, Yves Arnaud and P. Chevallier, 2009. Impact of monsoonal rainfall on specific mass balance in ablation zone of Chhota Shigri Glacier in 2008, Himachal Pradesh, India. Geophysical Research Abstracts, Vol.11, EUG2009-4690-1, 2009 in European Geosciences Union General Assembly 2009 Vienna, Austria, 19 – 24 April 2009.
- Parmanand Sharma**, AL Ramanathan, PG. Jose and Anurag Linda, 2009. Variation of meltwater discharge of Chhota shigri, Chandra Basin, himachal pradesh, national Symposium on Climate Change and Water Resources in India(CCWRIN), 18-19 November, 2009 in National Institute of Hydrology, Roorkee.pg.73-74
- Ramanathan. AL, Singh V.B, Jose. PG, **Sharma P**, Linda. L, Kumar. M, Azam. F. 2009. Hydrogeochemistry of Chhota Shigri Glacier, Lahaul-Spiti valley, Himachal Pradesh. National Symposium on Climate Change and Water Resources in India(CCWRIN) held on 18-19 November 2009 at National Institute of Hydrology, Roorkee. pg.48-49.
- Parmanand Sharma**, Alagappan Ramanathan, Pottakkal Jose and Anurag Linda, 2009. Study of discharge of Chhota Dara stream waters during peak ablation seasons to Chandra River, Lahaul-Spiti Valley, Himachal Pradesh. National seminare on "Recent Trends in Water Research"(RETWAR-2009) ABSTRACS,pg.61
- Sudarshana Sharma, **Parmanand Sharma** and Ramanathan AL., 2009. Study of Hydro Geochemical processes and Solute of the Chhota Darra Stream, Lahaul-Spiti Valley, Himachal Himalaya,India. National seminare on "Recent Trends in Water Research"(RETWAR-2009) ABSTRACS,pg.6
- Anurag Linda, Ramanathan AL., **Parmanand Sharma**, Pottakkal Jose and Shruti, 2009. Negative glacier mass balance- A threat for future water supply: A case study of Chhota Shigri glacier, Lahaul and Spiti Valley, Himachal Pradesh. National seminare on "Recent Trends in Water Research"(RETWAR-2009) ABSTRACS,pg.62

Vishwa Mohan Sharma, Ramanathan AL, Jose PG.,Anurag Linda and **Parmanand Sharma**, 2009. Rainwater Chemistry and Occurrence of Acid Precipitation over Delhi. National seminare on "Recent Trends in Water Research"(RETWAR-2009) ABSTRACS,pg.3

Alagappan Ramanathan, Jose George Pottakkal, Anurag Linda, D. Shruthi and **Parmanand Sharma**, 2008. Deglaciation impact on the sub-glacial drainage systems of the Gangotri Glacier in Himalayas through dye tracer and hydrogeochemical techniques in India. International workshop on World Glacier Inventory" Lanzhou, China, 20-24 september 2008.

D. POSTERS PRESENTATION IN CONFERENCE/SYMPOSIA

Parmanand Sharma, AL. Ramanathan, Anurag Linda and Rasik Ravindra 2012. Role of winter accumulation in annual mass balance of Chhota Shigri glacier Lahaul-Spiti valley, Himachal Pradesh, India, SCAR, SCAR OSC at Portland, USA (16-19 July 2012).

Al. Ramanathan, **Parmanand Sharma**, Anurag Linda, Shruthi, Jose P.G, 2008. Preliminary studies on the Mass Balance of Chotta Shigri Glacier India, Workshop on mass balance measurements and modeling, IGS Symposia, Skeikampen, Norway (26-28 March 2008).

Yves Arnaud, Patrick Wagnon, Rajesh Kumar, Anurag Linda, **Parmanand Sharma**, Christian Vincent, Jose Pottakal, Alagappan Ramanathan, Syed Iqbal Hasnain, Pierre Chevallier,2007. A new benchmark glacier in the Western Himalaya: Chhota Shigri Glacier (Himachal Pradesh, India), POSTER SESSION - ROCCA PAOLINA - CERP (July, 4th 2007).

E. BOOK CHAPTER

Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, **Parmanand Sharma**, Anurag Linda, C. Chatterjee, Thupstan Angchuk & Arindan Mandal (2013). Hydrochemistry of meltwater emerging from Raktvarn glacier, central Himalaya, India. Climate Change & Himalayan Ecosystem-indicator, Bio & Water Resources. Scientific Publishers (India), pp. 109-118. ISBN 978-81-7233-847-3.

Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, Naveen Kumar & **Parmanand Sharma** (2013) Dissolved ion chemistry of Bara Shigri glacier meltwater , western Himalaya, India. Climate Change & Himalayan. Scientific Publishers (India).

Parmanand Sharma & AL. Ramanathan, 2012. Glacier Mass Balance Studies in Brøggerbreen, Svalbard Region. Scientific and Geopolitical Interests in Arctic and Antarctic, LIGHTS, IRIS Publication Pvt Ltd, New Delhi ,pp. 261-271, ISBN: 978-93-5067-908-1

Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, Manoj Kumar, **Parmanand Sharma** & Anurag Linda (2011). Hydro-Geochemical characteristics of Gangotri glacier. Climate change in the Himalayas, preserving the Third Pole for cooling the Earth. Indus Publishing Company, New Delhi. pp. 125-141. ISBN 978-81-7387-228-0.

BOOK

Sudarshana Sharma, Vinit Kumar and **Parmanand Sharma** 2009. A practical handbook for Life Science and Environmental Science. **Shree Publisher and Distributors, Delhi.**

Sudarshana Sharma, Vinit Kumar and **Parmanand Sharma** Anshu Dhaka 2013. Environmental Science: - A Sustainable Approach (An Objective View). **Shree Publisher and Distributors, Delhi.**