

Resume

Jose George Pottakkal

Scientist 'E', National Institute of Hydrology
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RESEARCH INTERESTS

Cryosphere processes, climate and water resources in Western Himalayan Region, Glaciology, Glacial & Mountain Hydrology, Snow Cover and Permafrost Mapping, Hydrochemistry & Water Quality Studies of Springs and Natural Water Bodies including High Altitude Wetlands, Climate–Water Resource Linkages in Himalaya, Environmental Geochemistry, Trace Metal dynamics in Rivers & Estuaries.

Expertise in surface water hydrology, water resource management. Well versed in discharge measurement techniques, use of tracers and other remote sensing techniques for pollution studies and other hydrological applications, meteorological measurements using manual and automatic weather stations, use of stable isotopes and geochemical tracers for end-member analysis and estimation of snow-melt/glacier melt and base flow components in river waters.

COMPLETED PROJECTS: 03; ONGOING PROJECTS: 06

SPONSORING AGENCIES: Dept. of Space, SERB/Dept. of Science & Technology, National Hydrology Project, National Mission on Himalayan Studies

PUBLICATIONS IN REFEREED JOURNALS: 30 (International: 16, National: 14)

Citations: 1459; h-index: 16; i10-index: 17

SELECT PUBLICATIONS

1. Shikha Rawal, **Jose P. G.**, Dilbag Singh & Anurag Linda (2024) Ensuring water security by reviving selected springs in Kangra region, Himachal Himalaya, India, **Water Science**, 38:1, 239-255, [DOI: 10.1080/23570008.2024.2333600](https://doi.org/10.1080/23570008.2024.2333600)
2. Mandal, A, Ramanathan, AL., Azam, M. F., Wagnon, P., Angchuk, T., Soheb, M., Kumar, N., **Pottakkal, J.G.**, Vatsal, S., Mishra, S., Singh, V. B. (2020) Understanding the interrelationships among mass balance, meteorology, discharge and surface velocity on Chhota Shigri Glacier over 2002–2019 using in situ measurements. **Journal of Glaciology**. 66(259), 727–741. <https://doi.org/10.1017/jog.2020.42>
3. Azam, M. F., Wagnon, P., Vincent, C., Ramanathan, AL., Kumar, N., Srivastava, S., **Pottakkal, J.G.**, Chevallier, P. (2019) Snow and Ice melt contributions in a highly glacierized catchment of Chhota Shigri Glacier (India) over the last five decades. **Journal of Hydrology**. <https://doi.org/10.1016/j.jhydrol.2019.04.075>
4. Virendra Bahadur Singh, AL Ramanathan, **Jose George Pottakkal** (2016) Glacial runoff and transport of suspended sediment from the ChhotaShigri glacier, Western Himalaya, India. ***Environmental Earth Sciences***, 75 (8) 1-13.

5. Azam, M. F., AL. Ramanathan, P. Wagnon, C. Vincent, A. Linda, E. Berthier, P. Sharma, A. Mandal, T. Angchuk, V. B. Singh, **J. G. Pottakkal** (2016) Meteorological conditions, seasonal and annual mass balances of Chhota Shigri Glacier, western Himalaya, India. **Annals of Glaciology** 57(71), 328–338.
6. Azam, M. F., P. Wagnon, C. Vincent, AL. Ramanathan, V. Favier, A. Mandal, and **J. G. Pottakkal** (2014) Processes governing the mass balance of Chhota Shigri Glacier (western Himalaya, India) assessed by point-scale surface energy balance measurements. **The Cryosphere** 8, 2195–2217.
7. **J. G. Pottakkal**, AL. Ramanathan, V. B. Singh, P. Sharma, M. F. Azam and A. Linda (2014) Characterization of subglacial pathways draining two tributary meltwater streams through the lower ablation zone of Gangotri glacier system, Garhwal Himalaya, India. **Current Science** Vol. 107, No. 4, 613-621.
8. M. F. Azam, P. Wagnon, C. Vincent, AL. Ramanathan, V. Favier, A. Mandal, and **J. G. Pottakkal** (2014) Processes governing the mass balance of Chhota Shigri Glacier (western Himalaya, India) assessed by point-scale surface energy balance measurements. **The Cryosphere**. 8, 2195–2217.
9. V. B. Singh, AL. Ramanathan, **J. G. Pottakkal** and M. Kumar (2014) Seasonal variation of the solute and suspended sediment load in Gangotri glacier meltwater, central Himalaya, India. **Journal of Asian Earth Sciences** 79: 224–234.
10. Parmanand Sharma, AL. Ramanathan and **Jose Pottakkal** (2013) Study of solute sources and evolution of hydrogeochemical processes of the Chhota Shigri Glacier meltwaters, Himachal Himalaya, India. **Hydrological Sciences Journal**, doi:10.1080/02626667.2013.802092.
11. Mohd. F. Azam, P. Wagnon, AL. Ramanathan, C. Vincent, P. Sharma, Y. Arnaud, A. Linda, **Jose G. Pottakkal**, P. Chevallier, V. B. Singh, E. Berthier (2012) From balance to imbalance: a shift in the dynamic behaviour of Chhota Shigri Glacier (Western Himalaya, India). **Journal of Glaciology**, doi: 10.3189/2012JoG11J123
12. Wagnon P., A. Linda, Y. Arnaud, R. Kumar, P. Sharma, C. Vincent, **J. G. Pottakkal**, E. Berthier, AL. Ramanathan, S. I. Hasnain, P. 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, pp. 603-611.
13. Hasnain, S. I, **Jose P.G.**, Ahmad, S and Negi, D.C. 2001. Character of the subglacial drainage system in the ablation area of Dokriani glacier, India, as revealed by dye-tracer studies. **Journal of Hydrology** Vol. 248(1-4), pp.216-223.

BOOK: Snow and Glaciers of Himalayas, 2011: Published by Space Applications Centre (ISRO), Ahmedabad (Co-author).

PAPER PRESENTATIONS: ~40 (including invited/keynote lectures in International & National Conferences)

INVOLVEMENT IN S&T POLICY MEETINGS ON CRYOSPHERIC & HYDROLOGIC SCIENCES

2nd meeting of Steering Committee for Monitoring of Glaciers chaired by Secretary (WR), Ministry of Jal Shakti, Govt. of India at National Institute of Hydrology, Roorkee during April 25 – 26, 2024.

'Launch Workshop and Brainstorming for Preparation of Detailed Project Report for Rejuvenation of Indus River Basin through Forestry Interventions' organized by Himalayan Forest Research Institute, Shimla, 28-29 June, 2019. Brainstorming cum Workshop "Conservation and Management of High Altitude Wetlands in Indian Himalaya" at GBPNIHESD, Almora on May 8, 2019.

First Regional Workshop on Enhancing Science Based Regional Cooperation in Upper Indus Basin Network (UIB-N) at ICIMOD, Kathmandu during April 24-25 2018.

1st International Forum on Asian Water Environment Technology held at Jawaharlal Nehru University Convention Centre, New Delhi, 18-20 December, 2013.

SAARC Consultation Workshop on “Implementation of Thimphu Statement on Climate Change: Integration of Climate Change Adaptation and Disaster Risk Reduction” held at Udappa Auditorium, BHU and Hotel Taj Gateway, Varanasi, 29-31 August, 2013.

Department of Science & Technology Scoping Meeting for “Integrated Programme on Gangotri Glacier – Implementation Plan” at Snow & Avalanche Study Establishment (SASE), Chandigarh, 14-15 September, 2012.

Presentation at the Brainstorming Session on the Science Plan for the Integrated Programme on Dynamics of Glaciers in Himalayas, held at Wadia Institute of Himalayan Geology, Dehradun, 20 April, 2011.

Presentation at the Department of Science & Technology, Govt. of India sponsored ‘Brainstorming Meeting on Himalayan Climate and Glaciers’ held at IIT Delhi, 15-16 February, 2010.

Knowledge Sharing Workshop ‘From Mountains to the Sea: Adapting to Climate Change’ held at the WWF-India Auditorium, New Delhi, 23-24 November, 2009.

Second India Disaster Management Congress organized by the National Institute of Disaster Management at Vigyan Bhavan, New Delhi, 4-6 November, 2009.

ACCADEMIC QUALIFICATIONS

Ph.D. (1995): *School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, INDIA*
Thesis - *“Nature of distribution and fractionation of Hg, Cd, Cu, Pb and Zn in the sediments of Ganga (Hoogly) Estuary, India”*

M.Phil. (1990): *School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, INDIA*
Dissertation - *“Nature of solute and sediment load in the Periyar River and Idukki catchment”*

M.Sc. (1987): *Marine Geology, School of Marine Sciences, Cochin University of Science & Technology, Kochi, Kerala, INDIA*

MEMBERSHIP OF GOVERNMENT BODIES

Member: Wetland Authority of UT of Jammu and Kashmir (Nominee of MK Goel, Director, NIH)

Member: Executive Committee, Jal Jeevan Mission, UT of Jammu and Kashmir

INDUSTRIAL EXPERIENCE

General Manager, Fine Chemtech India Pvt. Ltd. NOIDA, Indian subsidiary of a Chemical Engineering Company from Republic of Korea (2004-2006)

APPEARANCES ON NATIONAL TELEVISION

NDTV - World This Week (2001) hosted by Pranoy Roy. Topic ‘Climate Change and Retreating Himalayan Glaciers’ interviewed from site (Dokriani Glacier, Bhagirathi Ganga sub-basin, Garhwal Himalaya)

Rajya Sabha TV - People’s Forum (2010) ‘Panel Discussion on IPCC 4th Assessment Report - Controversy of Himalayan Glaciers disappearing by 2035’