

Dr. Laluraj C.M.

Scientist-D

Cryosphere Science Division

AREA OF RESEARCH

Holocene Antarctic climate variability, Air-Snow Interactions and Atmospheric Chemistry, Marine Biogeochemistry

ACADEMIC CAREER

- 2009 Ph.D in MARINE SCIENCE (Cochin University of Science & Technology); Work conducted at National Institute of Oceanography, Cochin.
- 2001 Master of Science in Chemical Oceanography, Cochin University of Science & Technology, Cochin.

PROFESSIONAL CAREER

- 2014 Scientist-D, National Centre for Antarctic & Ocean Research, Goa.
- 2009 Scientist-C, National Centre for Antarctic & Ocean Research, Goa.
- 2006 Scientist-B, National Centre for Antarctic & Ocean Research, Goa.
- 2003 Research Fellow, National Institute of Oceanography, Cochin.

AWARDS & RECOGNITIONS

- 2010 Certificate of Merit for Outstanding Contribution by Ministry of Earth Sciences, India.

SIGNIFICANT CONTRIBUTIONS & ACHIEVEMENTS

- Participated in various expeditions to Antarctica, Arctic and Himalaya.
- Participated in various Research oceanic cruises in Arabian Sea, Bay of Bengal and Andaman waters.

BOOK/MONOGRAPH

Laluraj C.M., S.M.Nair. and K.K.Balachandran. (2011). Geochemical stability of marine sediments along the southwest coast of India: Prior and after Tsunami 2004. Book published by VDM-Verlag (ISBN-978-3-639-32620-8), 320p.

PUBLICATIONS

1. **Laluraj C.M.**, Thamban, M., Satheesan, K. (2014). Dust and associated geochemical fluxes in a firn core from coastal East Antarctica and its linkages with Southern Hemisphere climate variability over the last 50 years. **Atmospheric Environment**. 90, 23-32.
2. **Laluraj C.M.**, K.K. Balachandran. and Sabu, P. (2012). Enhanced biological production in the southeastern Arabian Sea during spring intermonsoon. **Advances in Oceanography and Limnology**, 3(2), 133-145.
3. Mahalinganathan, K., Thamban, M., **Laluraj, C. M.** and Redkar, B. L. (2012). Relation between surface topography and sea-salt snow chemistry from Princess Elizabeth Land, East Antarctica. **The Cryosphere**. 6, 1–11.
4. Runa Antony, K.P. Krishnan, **C.M. Laluraj**, Meloth Thamban, P.K. Dhakephalkar., Anupama S. Engineer and S. Shivaji. (2012). Diversity and physiology of culturable

- bacteria associated with a coastal Antarctic ice core. **Microbiological research**. 167(6), 372-380.
5. **Laluraj C.M.**, Thamban, M., S.S. Naik, B.L. Redkar, A. Chaturvedi and R. Ravindra (2011). Nitrate records of a shallow ice core from East Antarctica: atmospheric processes, preservation and climatic implications. **The Holocene**, 21 (2), 351-356.
 6. Thamban M., **Laluraj, C. M.**, Naik, S. S., Chaturvedi, A. (2011). Reconstruction of Antarctic climate change using ice core proxy records from the coastal Dronning Maud Land, East Antarctica. **Journal of Geological Society of India**, 78 (1), 19-29.
 7. Thamban, M; Naik, S.S; **Laluraj, C.M**; Ravindra, R. (2011). High resolution climate reconstructions of recent warming using instrumental and ice core records from coastal Antarctica. **Mausam**, 62 (4): 665-672.
 8. Karuppasamy, P.K., **Laluraj, C. M.**, Muraleedharan, K. R. and Maheswari Nair. (2011). Myctophid and pelagic shrimp assemblages in the oxygen minimum zone of the Andaman Sea during the winter monsoon. **Indian Journal of Geo-Marine Science**, 40(4), 536-541.
 9. Naik, S. S., Thamban, M., **Laluraj C.M.**, Redkar, B.L. and Chaturvedi, A. (2010). A century of climate variability in the central Dronning Maud Land, East Antarctica and its relation to Southern Annular Mode and El Niño Southern Oscillation. **Journal of Geophysical Research (Atmospheres)**: 115 (16) D16102, doi:10.1029/2009JD013268.
 10. Thamban, M., **C. M. Laluraj**, K. Mahalinganathan, B. L. Redkar, S. S. Naik and P. K. Shrivastava (2010). Glacio-chemistry of surface snow from the Ingrid Christensen Coast, East Antarctica, and its environmental implications. **Antarctic Science**, 22(4), 435-441.
 11. Naik, S.S., Thamban, M., Rajakumar, A., **Laluraj C.M.**, and Chaturvedi, A. (2010). Influence of climatic teleconnections on the temporal isotopic variability as recorded in a firm core from the central Dronning Maud Land, East Antarctica. **Journal of Earth System Science**, 119, 41-49.
 12. Reji Sreenivas., Girish Gopinath., **Laluraj C.M.** and Kuriyan Sajan. (2010). Morphological Features of an Estuarine System on South-West Coast of India. **International Journal of Earth Sciences and Engineering**, 03(06), 875-885.
 13. Nair, M., J. Jacob, P. A. Nisha, G. D. Martin, K. Srinivas, P. Sheeba, **C. M. Laluraj**, T. Joseph and K. K. Balachandran. (2010). Seasonal variations in the sediment biogenic properties of a tropical mangrove environment, southwest coast of India. **Environmental Earth Sciences**, 61(1),27-35.
 14. **Laluraj C.M**, K.P.Krishnan, M. Thamban, Rahul Mohan, A. Chaturvedi, S.S.Naik, W.Dsouza and R. Ravindra. (2009). Characterisation and origin of micro particle in the ice core from the Central Dronning Maud Land, East Antarctica. **Environmental Monitoring and Assessment**. 144 (1-4), 377-383.
 15. K.K. Balachandran , **Laluraj C.M.**, R. Jyothibabu , N.V. Madhu , K.R. Muraleedharan , J.G. Vijay , P.A. Maheswaran, T.T.M. Ashraff ,K.K.C. Nair , C.T. Achuthankutty. (2008). Hydrography and biogeochemistry of the north western Bay of Bengal and the north eastern Arabian Sea during winter monsoon. **Journal of Marine System**. 73, 76-86.
 16. Thresiamma Joseph, Shaiju.P, **Laluraj C.M**, K.K. Balachandran, M.Nair, Rejomon George., K.K.C.Nair, Satish Sahayak and M.P. Prabhakaran. (2008). Nutrient environment of red tide- infested waters off south-west coast of India. **Environmental Monitoring and Assessment**. 143 (1-3), 355-361.

17. K. K. Balachandran .,K. V. Jayalakshmy ., Laluraj C. M., Maheswari Nair .,Thresiamma Joseph ., and P. Sheeba. (2008). Step-up multiple regression model to compute Chlorophyll *a* in the coastal waters off Cochin, southwest coast of India. ***Environmental Monitoring and Assessment***. 139, (1-3), 217-226.
18. Martin, G.D., Vijay, J.G., Laluraj, C.M., Madhu, N.V., Joseph, T.,Nair, M., Gupta, G.V.M., and Balachandran, K.K. (2008). Fresh water influence on nutrient stoichiometry in a tropical estuary, southwest coast of India. ***Applied Ecology and Environmental Research***. 6 (1), 57-64.
19. **Laluraj C.M**, Girish Gopinath, Dinesh Kumar.P.K and K.K Balachandran. (2008). Hydrodynamic and geomorphic controls on the morphology of an island ecosystem in Vembanad Lake, South west coast of India. *Journal of Coastal Research*. 24, 145-150.
20. **Laluraj C.M**, Kesavadas, Balachandran K.K, Vijay John Gerson, Martin G.D, Revichandran C, T.Joseph and M.Nair. (2007). Recovery of an estuarine system from tsunami impacts- southwest coast of India. *Environmental Monitoring and Assessment*. 125, 1-3:41-45.
21. Dinesh Kumar.P.K, Girish Gopinath, **Laluraj C.M**, Seralathan.P. and Mitra. D. (2007). Change detection studies of Sagar Island, West Bengal (India) using IRS IC LISS III DATA. ***Journal of Coastal Research***. 23(6), 1498-1502.
22. **Laluraj C.M** , K.K.Balachandran, Sabu.P. and U.P.Saramma. (2006). Persistent volcanic signature observed around Barren Island, Andaman Sea, India. *Marine Geophysical Researches* 27:283-288.
23. K.K.Balachandran, **Laluraj C.M.**, Martin G.D, Sreenivas. K and P.Venugopal. (2006). Environamtl analysis of heavy metal deposition in a flow restricted tropical estuary and its adjacent shelf. ***Environmental Forensics***. 7, 345-351.
24. **Laluraj C.M**, Girish Gopinath, Dinesh Kumar.P.K and Seralathan.P. (2006). Seasonal variation in groundwater chemistry and quality of phreatic coastal and crystalline terrine aquifers of central Kerala, India. ***Environmental Forensics***. 10, 335-344.
25. **Laluraj C.M** and S.M. Nair. (2006). Geochemical index of trace metals in surfacial sediments from the western continental shelf of Arabian Sea. ***Environmental Geochemistry and Health***. 28 (6), 509-518.
26. **Laluraj C.M** and Girish Gopinath. (2006). Assessment on seasonal variation of groundwater quality of phreatic aquifers - river basin system. ***Environmental Monitoring and Assessment***. 117, 1-3:45-57.
27. K.K.Balachandran, **Laluraj.C.M**, M. Nair, T. Joseph, P. Sheeba and P. Venugopal. (2005). Heavy metal Accumulation in a flow restricted, tropical estuary. ***Estuarine and Coastal Shelf Science***. 65,361-370.
28. **Laluraj C.M**, Girish Gopinath and Dinesh Kumar. P.K. (2005). Groundwater chemistry of shallow Aquifers in the coastal zones of Cochin, India. ***Applied Ecology and Environmental Research***. 3(1), 133-139.
29. **Laluraj C.M**, Padma.P, Sujatha.C.H, N.C.Kumar, J.Chacko and S.M.Nair (2002). Base-Line Studies on the Chemical Constituents of Kayamkulam Estuary Near to the Newly Commissioned NTPC Power Station. ***Indian Journal of Environmental Protection***. 22. 721-731.

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