

CURRICULAM VITAE

**Vidya P J, Project Scientist C,
National Centre for Antarctic and Ocean Research (NCAOR), Sada, Vasco, Goa, India**

Contact Mobile Number: +91 9421747828, +919834504105, e-mail: pjvidya@gmail.com

RESEARCH OVERVIEW & CAPABILITIES

I have gained substantial knowledge in the field of physical oceanography, bio-physical coupling and climate change associated processes in the Northern Indian Ocean during the last twelve years (2006 to present) of research experience in Physical Oceanography Division, CSIR-National Institute of Oceanography, Goa which is one of the best oceanography research institutes of the world.

Prior to my Ph.D, I had worked in the projects entitled “Long-term measurements of currents in the equatorial Indian Ocean through deep-sea moorings” and “Environmental studies for the assessment of myctophid resources in the Arabian Sea” for 4 years to analyse various oceanographic data and also participated in the oceanographic cruises.

Doctoral Research:

The focus of my doctoral research was on the Influence of physical processes on the seasonal and interannual variability on the biogenic flux in the Bay of Bengal. My doctoral research attempted to identify variability of the biogenic flux in the meso-pelagic layer ranging from subseasonal to interannual time scale and unravel the physical processes that are responsible for the observed variability. The study identified strong seasonal cycle in the southern Bay of Bengal mediated through coupled bio- physical processes, which altered the phytoplankton composition [Vidya *et al.*, 2013]. The second important result was the role of mesoscale eddies in bringing about the interannual variability in the biogenic flux in the northern and central Bay of Bengal and also the role of diatom in exporting organic carbon to the deep ocean under the influence of these eddies [Vidya and Prasanna Kumar, 2013].

Post-Doctoral Research:

The question of nutrient supply for new production in the oligotrophic Bay of Bengal has been problematic for few decades. Though Bay of Bengal is less productive in comparison with the Arabian Sea, why the average annual organic carbon fluxes showed comparable values is an another important question? Over the last few years, new evidence suggests that intermittent nutrient injection events associated with mesoscale eddies could reconcile this issue. However, key questions remain with respect to upper ocean mixing, biological rates, shift in phytoplankton community structure, export and impacts on coupled biogeochemical cycles. Few researchers carried out research on mesoscale eddy contributed biological production [Prasanna Kumar *et al.*, 2004; Prasanna Kumar *et al.*, 2007; Muraleedharan *et al.*, 2007; Nuncio, 2007; Nuncio and Prasanna Kumar, 2012] and organic carbon export [Vidya and Prasanna Kumar, 2013] using the insitu measurements and remote sensing data in the Bay of Bengal. All the above studies are limited in time and space and did not include modeling that links between biological and physical processes contributed by the mesoscale eddies.

To address the above, I worked on a high resolution (~9km) coupled physical-biogeochemical-ecological model ROMS-bio Fennel in the Bay of Bengal region and trying to explore those research questions.

On April 20,2018, I have joined as Project Scientist C in National Centre for Antarctic and Ocean Research, Sada, Goa, India. I have started working on physical oceanography of southern Ocean.

REAEARCH AND DEVELOPMENT EXPERIENCE

Project Scientist C, National Centre for Antarctic and Ocean Research, Headland, Sada, Vasco, Goa (20/04/2018 to till date)

DST fast track young scientist, Physical Oceanography Division, National Institute of Oceanography (CSIR), Goa, India. (2016-2018)

Project Assistant, Physical Oceanography Division, National Institute of Oceanography (CSIR), Goa, India. (2013-2014)

- Analyzed the oceanographic data and its interpretations for the scientific reports.
- Manuscript preparation

Senior Research Fellow, Physical Oceanography Division, National Institute of Oceanography (CSIR), Goa, India. (2009-2012)

- Prepared proposal and formulated objectives for the doctoral research
- Carried out the doctoral work
- Manuscript preparation and Writing the thesis

Project Assistant, Physical Oceanography Division, National Institute of Oceanography (CSIR), Goa, India. (2006-2009)

- Analyzed the oceanographic data and its interpretations for the scientific reports.
- Participated in oceanographic cruises for the measurement of physical, chemical and biological parameters for the scientific research.
- Assisted project leader for preparing figures for the manuscript preparation.

ACADEMIC QUALIFICATIONS

- **Doctor of Philosophy (Ph.D.)**, 2015, Department of Marine Science, Goa University and CSIR-NIO, Goa, India.

Title of Thesis: *Influence of Physical processes on the seasonal and interannual variability of biogenic flux in the Bay of Bengal*

- **Master of Sciences (M.Sc.)** in Physical Oceanography, 2005, *Grade-First Class*, Cochin University, India,
- **Bachelor of Sciences (B.Sc.)** in Physics, Mathematics and Chemistry, 2003, *Grade-First Class*, Calicut University, India.

AWARDS / RECOGNITIONS

- Best Poster award in the International SOLAS Summer School, Cargese, France (Surface Ocean Lower Atmosphere Study project Office, UK), 2011.
- DST-SERB Fast track Young Scientist Scheme was awarded in December 2015.
- Council of Scientific and Industrial Research (CSIR) Senior Research Fellowship (SRF), 2009.
- Council of Scientific and Industrial Research (CSIR) National Eligibility Test (NET) for lectureship (CSIR), 2011.
- Best presentation among the SETHU (CSIR-NIO) Research Fellows Forum, 2012.
- Indian National Science Academy (INSA) airfare funding to France.

PUBLICATIONS IN REFEREED JOURNALS

1. **P.J. Vidya**, S. Prasanna Kumar, Mangesh Gauns, Arati Verenkar, Daniela Unger and V. Ramaswamy (2013), *Influence of physical and biological processes on the seasonal cycle of biogenic flux in the equatorial Indian Ocean*, **Biogeosciences**: 10(11) ; 2013; 7493-7507, (**IF 3.753**)
2. **P.J. Vidya**, and S. Prasanna Kumar (2013), *Role of mesoscale eddies on the variability of biogenic flux in the northern and central Bay of Bengal*, **Journal of Geophysical Research (Oceans)**, 118,doi:10.1002/jgrc.20423 5760-5771(**IF 3.440**).
3. R. Mani Murali, **P.J. Vidya**, Poonam Modi and Seelam Jaya Kumar (2014), *Site selection for offshore wind farms along the Indian coast*, **Indian Journal of Geo Marine Sciences**, 43(7), 14011406, (**IF 0.31**).
4. B. Manikandan, J.Ravindran, **P.J. Vidya** and R. Mani Murali (2016), *Bleaching and recovery patterns of corals in Pak Bay, India: An indication of resilient bleaching reef*, **Regional Studies in Marine Science**, 8(1); 2016; 151-156. (**IF 0.00**)
5. **P.J. Vidya**, Santosh Das, R. Mani Murali (2017), *Contrasting Chl-a responses to the tropical cyclones Thane and Phailin in the Bay of Bengal*, **Journal of Marine Systems**, 165, 103-114 (**IF 2.43**)
6. B. Manikandan, J. Ravindran, **P.J. Vidya**, S. Shrinivaasu, R Mani Murali, K Paramasivam (2016), *Coral recruitment pattern and their response to recurrent stress events in Palk bay, Southeast coast of India*, **Environmental Science and Pollution research**, 24 (15), 13614-13625 (**IF 2.76**).
7. **P.J.Vidya** and S. Prasanna Kumar (2018), *Impact of IOD on the biogenic flux variability in the Equatorial Indian Ocean (Deep Sea Research Part - 1, under review)*
8. A.V. Chndrasekhararao, Siby Kurian, **P.J. Vidya**, Mangesh Gauns, Damodar M. Shenoy, Hema Naik, Venugopal Reddy T, and S.W.A Naqvi (2017), *Phytoplankton response to contrasting physical regimes and evidence against the dramatic human-induced shift in winter-time community composition in the eastern Arabian Sea* , Journal of Marine Systems, **Journal of Marine Systems**, 182 (2018) 56–66, (**IF 2.43**).
9. **P.J. Vidya** and Siby Kurian (2018), *Impact of 2015-2016 ENSO on the winter convective bloom and associated phytoplankton community shift in the north eastern Arabian Sea* (Journal of Marine Systems, Accepted with minor revision).
10. Damodar M. Shenoy, Hema Naik, **P.J. Vidya**, Siby Kurian, Mangesh Gauns, and S.W.A Naqvi (2017), *Role of mesoscale eddies in sustaining Arabian Sea oxygen minimum zone* (Journal of Marine Systems, under preparation)
11. **P.J. Vidya** and Balaji. M (2018), *Eddy-cyclone interaction in the Bay of Bengal using numerical modelling (Ocean modelling, in Revision)*

12. **P.J. Vidya**, Roma Vargheese, R. Mani Murali (2018), Recent trends in Chlorophylla in the southeastern Arabian Sea during summer (Journal of Oceanography, Under Review)

PARTICIPATION IN OCEANOGRAPHIC CRUISES

- Participated in an Oceanographic Cruise in Indian Ocean for a period of 45 days.
- Operation of the oceanographic instruments such as CTD, AUTOSAL, Meteorological measurements, deployment of drifting Buoys and ARGO floats, etc.

KNOWLEDGE OF COMPUTER SKILLS/SOFTWARE

Operating systems: Linux and Window OS

Software known: FERRET, GMT, and MATLAB.

Mathematical modeling: I have set-up a high resolution (1/12 degree) biogeochemical model (ROMS –Fennel) for the Bay of Bengal region in the HPC cluster at CSIR-NIO.

CONFERENCES/WORKSHOPS

- Attended a national workshop held at NPOL, Cochin, related to the “Hydrographic Features on Coastal Waters” in October 2005.
- Attended the National conference on “Emerging trends in Meteorology and Oceanography” held at Cochin in May 2007.
- Participated in the International Conference on “Monsoon 2007”. Held at IISc, Bangalore on July 2007.
- Participated in the SAFARI (Societal Application in Fisheries and Aquaculture using Remotely-sensed Imagery) training course on Remote Sensing and Ecosystem-Based Management, including Fisheries held at the National Institute of Oceanography, Kochi during 11-13 Feb 2010.
- Participated summer school on “Dynamics of the Northern Indian Ocean” in National Institute of Oceanography, Goa during 18 June - 29 July 2010.
- Participated in the International summer school on “Global climate change (ClimECO2)” in Brest, France during 23-27 August 2010.
- Participated in the International “Surface Ocean Lower Atmosphere Studies (SOLAS)” summer school in Cargese, France during 28 Aug -10 Sep 2011.
- Participated in the International Winter School on "Using models to advance our understanding of Indian Ocean biogeochemical variability held at CSIR-National Institute of Oceanography, Goa, India during 16-21 February 2015.

PERSONAL

- Date of Birth - 31st May 1983
- Marital Status – *Married*.
- Citizenship – *Indian*
- Address - F 3/3, Chamunda Residency, Mitra Bazaar, Caranzalem, Goa -403002, India
https://www.researchgate.net/home_skype : vidyamurali1