CURRICULUM VITAE

Name : **DR. SARAT CHANDRA TRIPATHY**

Designation : Scientist-E & Group Director I/C

Research Group : Ocean Sciences Group (OSG)

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ACADEMIC BACKGROUND:

2011: D.Sc, Earth and Environmental Sciences [Nagoya University, Japan].

2005: Ph.D, Marine Sciences [National Institute of Oceanography/Berhampur University].

1998: M.Sc, Marine Biology [Berhampur University, Odisha].

1996: B.Sc, Botany (Hons.), Chemistry, Zoology [Utkal University, Odisha].

PROFESSIONAL BACKGROUND:

01-2016 : Scientist - E, ESSO-National Centre for Antarctic & Ocean Research, Goa.

12-2011 : Scientist - D, ESSO-National Centre for Antarctic & Ocean Research, Goa.

04-2011 : Post Doctoral Fellow, HyARC, Nagoya University, Japan.

04-2008 : Research Student (D.Sc.), Nagoya University, Japan.

04-2005 : Japanese Govt. (Monbukagakusho/MEXT) Scholar, Nagasaki University, Japan.

04-2003 : Senior Research Fellow, CSIR-National Institute of Oceanography, Visakhapatnam.

11-2001 : Project Biologist, Wildlife Institute of India, MoEF, Dehradun.

09-1999 : Project Trainee-III, CSIR-National Institute of Oceanography, Visakhapatnam.

AWARDS & RECOGNITIONS:

- INSA fellowship to participate in the XIIth SCAR Biology Symposium in Belgium during 2017.
- Nagoya University fellowship to participate in PICES conference in USA during 2009.
- Outstanding poster award in the PORSEC held at Guangzhou, China during 2008.
- Japanese Government (MEXT) Fellowship for pursuing PhD in Japan during 2005.
- NF-POGO Fellowship (NIO-Kochi Alumnus) during 2004-05.
- CSIR-Senior Research Fellowship during 2003.
- 2nd rank in M.Sc from Berhampur University during 1998.
- National scholarship in higher secondary examination during 1991.

RESEARCH INTERESTS:

- Marine Primary Productivity and Biogeochemistry
- Bio-optical Oceanography

SCIENTIFIC EXPEDITIONS:

2018: Member of the 10th Indian Southern Ocean Expedition onboard MV SA-Agulhas.

2017: Chief Scientist of the 9th Indian Southern Ocean Expedition onboard MV SA-Agulhas.

2016: Station leader of the Arctic Expedition (Summer, Phase II).

2015: Chief Scientist of the 8th Indian Southern Ocean Expedition onboard ORV-Sagar Nidhi.

2014: Deputy Chief Scientist of the Tropical Indian Ocean Expedition onboard ORV-Sagar Nidhi.

2013: Deputy Chief Scientist of the 7th Indian Southern Ocean Expedition onboard ORV-Sagar Nidhi.

2012: Member of the Arctic Expedition (Summer, Phase III).

PEER-REVIEWED PUBLICATIONS:

28. **Tripathy, S.C.** and Jena, B. (201x): Remote sensing of phytoplankton bloom in the Southern Ocean: An overview of insights gained from iron enrichment by experimental and natural processes. ***Remote Sensing of Earth Systems Sciences*** [In review].
27. Venkataramana, V., **Tripathy, S.C.**, Anilkumar, N., Sarkar, A., Soares, M.A., Sabu, P., Mishra, R.K., Pillai, H.U.K. (201x): Zooplankton biomass, abundance and distributon of community structure in the frontal systems of the Indian Ocean sector of Southern Ocean, ***Polar Biology*** [Revised and submitted].
26. George, J.V., Anilkumar, N., Nuncio, M., Soares, M.A., Naik, R.K., **Tripathy, S.C.** (201x): Upper layer diapycnal mixing and nutrient flux in the subtropical frontal region of the Indian sector of Southern Ocean. ***Journal of Marine Systems***, Vol. xx, pp. xx-xx [Resubmitted after minor revision].
25. Pillai, H.U.K., Anilkumar, N., Achuthankutty, C.T., Mendes, C.R., Sabu, P., Jayalakshmi, K.V., Asha Devi, C.R, Dessai, D., George, J.V., Pavithran, S., Hari Devi, C.K., **Tripathy, S.C.**, Menon, N.R. (2018): Planktonic food web structure at SSTF and PF in the Indian sector of Southern Ocean during austral summer 2011. ***Polar Research***, Vol. xx, pp. xx-xx [Accepted].
24. **Tripathy, S.C.**, Patra, S., Vishnu Vardhan, K., Sarkar, A., Mishra, R.K., Anilkumar, N. (2018): Nitrogen uptake by phytoplankton in surface waters of the Indian sector of Southern Ocean during austral summer. ***Frontiers of Earth Science***, doi: 10.1007/s11707-017-0649-9, Vol. 12(1), pp. 52-62.
23. Sukigara, C., Mino, Y., **Tripathy, S.C.**, Ishizaka, J., Matsuno, T. (2017): Impacts of the Changjiang diluted water on sinking processes of particulate organic matters in the East China Sea. ***Continental Shelf Research***, doi: 10.1016/j.csr.2017.10.102, Vol. 151, pp.84-93.
22. Zhu, Y., Ishizaka, J., **Tripathy, S.C.**, Wang, S., Sukigara, C., Goes, J., Matsuno, T., Suggett, D. (2017): Relationship between light, community composition and the electron requirement for carbon fixation in natural phytoplankton. ***Marine Ecology Progress Series***, doi: 10.3354/meps12310, Vol. 580, pp. 83-100.
21. Venkataramana, V., **Tripathy, S.C.**, Anilkumar, N. (2017): The occurrence of blue-pigmented Pontella valida Dana, 1852 (Copepoda: Calanoida: Pontellidae) in the equatorial Indian Ocean. ***Journal of Crustacean Biology***, doi: 10.1093/jcbiol/rux037, Vol. 37(4), pp. 512-515.
20. **Tripathy, S.C.**, Mishra, R.K., Naik, R.K. (2017): Progress in Southern Ocean biology from the Indian Sector: half-decadal (2009-13) overview. ***Proceedings of the Indian National Science***

A cademy, doi: 10.16943/ptinsa/2017/48962, Vol. 83(2), pp. 385-398.

19. Zhu, Y., Ishizaka, J., **Tripathy, S.C.**, Wang, S., Mino, Y., Matsuno, T., Suggett, D.J. (2016): Variation of the photosynthetic electron transfer rate and the electron requirement for daily net carbon fixation in Ariake Bay, Japan. ***Journal of Oceanography***, doi: 10.1007/s10872-016-0370-4, Vol. 72(5), pp. 761-776.
18. Bhaskar, J.T., **Tripathy, S.C.**, Sabu, P., Laluraj, C.M. and Rajan, S. (2016). Variation of phytoplankton assemblages of Kongsfjorden in early autumn 2012: A microscopic and pigment ratio based assessment. ***Environmental Monitoring and Assessment***, doi: 10.1007/s10661-016-5220-8, Vol. 188(4), pp.1-13.
17. **Tripathy, S.C.**, Pavithran, S., Sabu, P., Pillai, H.U.K., Dessai, D.R.G. and Anilkumar, N. (2015). Deep chlorophyll maximum and primary productivity in the Indian Ocean sector of the Southern Ocean: Case study in the Subtropical and Polar Front during austral summer 2011. ***Deep-Sea Research II***, Vol. 118, pp. 240-249.
16. Sabu, P., Anilkumar, N., George, J.V., Chacko, R., **Tripathy, S.C.** and Achuthankutty, C.T. (2014). The influence of air-sea-ice interaction on the anomalous phytoplankton bloom in the Indian Ocean sector of Antarctic Zone of the Southern Ocean during austral summer 2011. ***Polar Science***, Vol. 8, pp. 370-384.
15. **Tripathy, S.C.**, Pavithran, S., Sabu, S., Naik, R.K., Noronha, S.B., Bhaskar, P.V. and Anilkumar, N. (2014). Is phytoplankton productivity in the Indian Ocean sector of Southern Ocean affected by pigment packaging effect? ***Current Science***, Vol. 107(6), pp. 1019-1026.
14. Wang, S., Ishizaka, J., Yamaguchi, H., **Tripathy, S.C.**, Hayashi, M., Xu, Y., Mino, Y., Matsuno, T., Watanabe, Y. and Yoo, S. (2014): Influence of the Changjiang River on the light absorption properties of phytoplankton from the East China Sea. ***Biogeosciences***, Vol. 11, pp. 1759-1773.
13. Siswanto, E., Ishizaka, J., **Tripathy, S.C.** and Miyamura, K. (2013): Detection of harmful algal blooms of *Karenia mikimotoi* using MODIS measurements: a case study of Seto-Inland Sea, Japan. ***Remote Sensing of Environment***, Vol. 129, pp. 185-196.
12. **Tripathy, S.C.**, Ishizaka, J., Shibata, T., Siswanto, E. and Mino, Y. (2012): Modification of the vertically generalized production model for the turbid water of Ariake Bay, southwestern Japan. ***Estuarine, Coastal and Shelf Science***, Vol. 97, pp. 66-77.
11. Shibata, T., **Tripathy, S.C.**, Ishizaka. J. (2010): Phytoplankton pigment change as a phtoadaptive response to light variation caused by tidal cycle in Ariake Bay, Japan. ***Journal of Oceanography***, Vol. 66, pp. 831-843.
10. **Tripathy, S.C.**, Ishizaka, J., Shibata, T., Fujiki, T., Okamura, K., Hosaka, T. and Saino, T. (2010): Assessment of carbon- and fluorescence-based primary productivity in Ariake Bay, southwestern Japan. ***Estuarine, Coastal and Shelf Science,*** Vol. 87, pp. 163-173.
9. Tan, C.K., Ishizaka, J., Manda, A., Siswanto, E. and **Tripathy, S.C.** (2007). Assessing post tsunami effects on ocean color at eastern Indian Ocean using MODIS Aqua satellite. ***International Journal of Remote Sensing***, Vol. 28 (13, 14), pp. 3055-3069.

8. Tan, C.K., Ishizaka, J., Varis, R., Tong, P.H.S., **Tripathy, S.C.** and Siswanto, E. (2006): Oceanographic events at northern Borneo and their relationship to harmful algal blooms. ***Proceedings of ISRS-PORSEC*** held at Busan (October), South Korea.
7. Tong P.H.S., Lau V.K., Hoang X.B., Tan C.K., Ishizaka, J., Varis, R. and **Tripathy, S.C.** (2006): A discussion on the main reasons causing the mass mortality of corals and benthos in Condao Island during October 2005. ***Proceedings of ISRS-PORSEC*** held at Busan (October), South Korea.
6. Sarma, V.V., Sadhuram, Y., Sravanthi, N.A. and **Tripathy, S.C.** (2006). Role of physical processes in the distribution of chlorophyll *a* in the northwest Bay of Bengal during pre and post monsoon seasons. ***Current Science***, Vol. 91 (9), pp. 1133-1134.
5. **Tripathy, S.C.**, Kusuma kumari, B.A.V.L., Sarma, V.V. and Raman Murty T.V.R. (2006). Evaluation of trophic state and plankton abundance from the environmental parameters of Visakhapatnam harbor and near-shore waters, East coast of India. ***Asian Journal of Microbiology, Biotechnology and Environmental Science***, Vol. 7 (7), pp. 831-838.
4. Ray, A.K., **Tripathy, S.C.**, Patra, S. and Sarma, V.V. (2005). Assessment of Godavari estuarine mangrove ecosystem through trace metal studies. ***Environment International***, Vol. 32, pp. 219-223.
3. **Tripathy, S.C.**, Ray, A.K., Patra, S. and Sarma, V.V. (2005). Water quality assessment of Gautami-Godavari mangrove estuarine ecosystem of Andhra Pradesh, India during September 2001. ***Journal of Earth System Science***, Vol. 114 (2), pp. 185-190.
2. **Tripathy, S.C.** (2004). Can Bakhira Bird Sanctuary safeguard the purple moorhens? ***Current Science***, Vol. 86 (3), pp. 367-368.
1. **Tripathy, S.C.** (2004): Measurement of bio-optical parameters and their comparison with satellite derived products for the waters off Dona Paula, Goa. ***Nature, Environment and Pollution Technology***, Vol. 3 (3), pp. 287-291.

Related web pages: http://scholar.google.com/citations?user=pNIEnNcAAAAJ
https://www.researchgate.net/profile/Sarat_Tripathy

TECHNICAL REPORTS AND ARTICLES:

1. **S.C. Tripathy**, C.K. Haridevi & R.K. Mishra (2016): Latitudinal distribution of surface PAR and its relation with phytoplankton biomass and productivity. In: Anilkumar, N. and Tripathy, S.C. (Eds.), Technical publication of the 7th Indian Southern Ocean Expedition (2013), pp. 27-29, ISBN 978-93-5267-057-4.

2. V. Venkataramana, **S.C. Tripathy**, H.U.K. Pillai & C. Santhosh Kumar (2016): Distribution of copepod community structure in frontal systems of the Indian Ocean sector of Southern Ocean. In: Anilkumar, N. and Tripathy, S.C. (Eds.), Technical publication of the 7th Indian Southern Ocean Expedition (2013), pp. 30-36, ISBN 978-93-5267-057-4.

3. N. Anilkumar, J.V. George, **S.C. Tripathy**, P. Sabu, R.K. Naik, P.V. Bhaskar & S. Rajan (2015): Hydrodynamics and Biogeochemistry of the South West Tropical Indian Ocean region: A Perspective. The *Indian Ocean Bubble 2*, issue 3 (August), pp. 6-7, newsletter published by ESSO-INCOIS,

Hyderabad.

4. S. Pavithran, H.U.K. Pillai, M. Nanajkar, **S.C. Tripathy** and C.T. Achuthankutty (2014): Studies on Biogeochemistry and Hydrodynamics of the Indian sector of the Southern Ocean (Part-III Biological Productivity). *Technical Report on 4th Indian Expedition to the Southern Ocean (2010)*, pp. 13-18, ISBN: 978-93-5156-583-3.

5. S. Pavithran, C.K. Haridevi, **S.C. Tripathy**, H.U.K. Pillai and C.T. Achuthankutty (2014): Studies on Biogeochemistry and Hydrodynamics of the Indian sector of the Southern Ocean (Part-III: Biological Productivity and Food-web Dynamics (Primary Production)). *Technical Report on 5th Indian Expedition to the Southern Ocean during (2011)*, pp. 23-24, ISBN: 978-93-5156-520-8.

6. H.U.K. Pillai, S. Pavithran, **S.C. Tripathy** and C.T. Achuthankutty (2014): Studies on Biogeochemistry and Hydrodynamics of the Indian sector of the Southern Ocean (Part-3: Biological Productivity and Food-web Dynamics (Mesozooplankton)). *Technical Report on 5th Indian Expedition to the Southern Ocean during (2011)*, pp. 24-27, ISBN: 978-93-5156-520-8.

CONFERENCE/SEMINAR/WORKSHOP PRESENTATIONS:

- **Tripathy, S.C.** (2017): Role of Southern Ocean in Global Climate Change: Perspectives from Indian Southern Ocean Expeditions. 4th conference on SAGHAA, Nov. 30 to Dec. 1, JNU, New Delhi.
- **Tripathy, S.C.**, Pavithran, S., Sabu, P., Pillai, H.U.K., Dessai, D.R.G., Anilkumar, N. (2017): Deep chlorophyll maximum and primary productivity in Indian sector of the Southern Ocean: Case study in the Subtropical and Polar Front during austral summer 2011. SCAR Biology symposium, 10-14 July 2017, KU Leuven, Leuven, Belgium. [**O**]
- **Tripathy, S.C.**, Patra, S., Vishnu Vardhan, K., Sarkar, A., Mishra, R.K., Anilkumar, N. (2017): Nitrogen uptake by phytoplankton in surface waters of the Indian sector of Southern Ocean during austral summer. National Conference on Polar Sciences, 16-17 May 2017, NCAOR, Goa. [**O**]
- **Tripathy, S.C.**, Patra, S., Sabu, P., Naik, R.K., Sarkar, A., Venkataramana, V., Anilkumar, N. (2015): Variation of phytoplankton biomass and production in the Southwestern Tropical Indian Ocean during monsoon 2014. IO50 symposium *(Dynamics of the Indian Ocean: Perspective and Retrospective*), 30 Nov. to 04 Dec. 2015, NIO, Goa. **[P]**
- V. Venkataramana, **Tripathy, S.C.,** and Anilkumar, N. (2015). Diel variation in surface zooplankton abundance, biomass and community structure in the South Western tropical Indian Ocean during June 2014. IO50 symposium (*Dynamics of the Indian Ocean: Perspective and Retrospective*), 30 Nov. to 04 Dec. 2015, NIO, Goa. **[P]**
- **Tripathy, S.C.** and Anilkumar, N. (2015): Deep chlorophyll maximum and primary productivity in Indian Ocean sector of the Southern Ocean: Case study in the Subtropical and Polar Front during austral summer 2011. Surface flux workshop, 21-23 Sept. 2015, ESA, ESRIN, Frascati, Italy. [**P**]
- **Tripathy, S.C.** (2014): Southern Ocean Primary Production: Its role in Global Climate Change. National Hindi Scientific seminar, 30-31 July, IITM, Pune. [**P**]

- Sukigara, C., Mino, Y., **Tripathy, S.C.**, Ishizaka, J. and Matsuno, T. (2012): Sinking processes of the particulate matters in the center of the East China Sea. KJWOC workshop, 29-30 November, HyARC, Nagoya University, Japan. [**O**]
- Sukigara, C., Mino, Y., **Tripathy, S.C.**, Ishizaka, Z. and Matsuno, T. (2012): Sinking processes of the particulate matters in the center of the East China Sea. JOS meeting, 29 March – 03 April, Tsukuba University, Japan. [**O**]
- **Tripathy, S.C.**, Ishizaka, J., Shibata, T., Siswanto, E. and Mino, Y. (2010): Modification of vertically generalized production model for turbid water of Ariake Bay, southwestern Japan. PICES meeting, 22-31 October, Portland, Oregon, USA. [**P**]
- Shibata, T., **Tripathy, S.C.**, Ishizaka. J. (2010): Phytoplankton pigment change as a response to light variation caused by tidal cycle in Ariake Bay, Japan. JOS meeting, 25-30 March, Tokyo, Japan. [**O**]
- Matsuno, T., Endoh, T., Tsutsumi, E., Fukudome, K., Ishizaka, J., Yamaguchi, H., **Tripathy, S.C.**, Han, I. S., Lee, J.H., Jang, S.T., Kim, S.H. (2009): Vertical transport of subsurface nutrients in the East China Sea shelf for the primary production. PICES meeting, 23 October – 01 November, Jeju, Republic of Korea. [**P**]
- Ishizaka, J., Yamaguchi, H., **Tripathy, S.C.**, Makino, T., Matsuno, T., Endoh, T. (2009): Short- term variability of primary production of Changjhiang River plumes in the East China Sea observed in summer 2008. PICES meeting, 23 October – 01 November, Republic of Korea. [**P**]
- Ishizaka, J., Yamaguchi, H., Makino, T., **Tripathy, S.C.**, and Matsuno, T. (2009): Time changes of chlorophyll a and nutrients on the shelf: preliminary results of KT-08-19. Conference on East China Sea, 22-23 April, Nagoya University, Japan. [**O**]
- **Tripathy. S.C.**, Ishizaka, J., Saino, T., Fujiki, T, Okamura, K., and Shibata, T. (2008): Factors influencing carbon- and fluorescence-based primary production in Ariake Bay, southwestern Japan. PORSEC, 2-6 December, Guanzhou, China. [**P**]
- **Tripathy, S.C.**, Ishizaka, J., Saino, T., Fujiki, T., Okamura, K., Shibata, T., Hosaka, T. (2008): Factors influencing carbon- and fluorescence-based primary productivity in Ariake Bay. JOS meeting, 24-29 September, Hiroshima, Japan. [**O**]
- **Tripathy. S.C.**, Ishizaka, J., Saino, T., Fujiki, T, Okamura, K., and Shibata, T. (2008): Assessment of carbon- and fluorescence-based primary production in the Ariake Bay, Japan. 3rd KJWOC workshop, 22-23 January, Tokyo, Japan. [**O**]
- **Tripathy, S.C.**, J. Ishizaka and T. Saino (2006): Estimation of daily primary production using profiling buoy system: a case study in Sagami Bay. 2nd KJWOC, 19-20 December, Jeju, Republic of Korea. [**O**]
- Tan, C.K., J. Ishizaka, L.C. Quah, E. Siswanto, and **Tripathy, S.C.** (2006): Influence of Northeast Monsoon Wind on the Chlorophyll a Variation at Northern Malacca Straits. Symposium on Asian Winter Monsoon (Winter MONEX): A quarter Century and Beyond (WMONEX 25+), 4-7 April, Kuala Lumpur, Malaysia. [**P**]
- Tan, C.K., J. Ishizaka, Siswanto, E. and **Tripathy, S.C.** (2006): Assessment of Tsunami effects on surface chlorophyll *a* and sedimentation in the eastern Indian Ocean using MODIS satellite. International

Workshop: Post-Disaster Assessment and Monitoring of Coastal Ecosystems and Biological and Cultural Diversity in the Indian Ocean and Asian Waters, 20-24 February, Phuket, Thailand. [**O**]

- **Tripathy, S. C.**, J. Ishizaka, T. Saino and K. Okamura (2005). Estimation of primary production and phytoplankton photosynthetic parameters in the case II waters of Ariake bay by Fast Repetition Rate Fluorometer. JOS meeting, 26-30 March, Yokohama, Japan. [**P**]
- **Tripathy, S.C.**, Choudhury, B.C. and Hussain, S.A. (2001): Inland wetland conservation and management in Uttar Pradesh. Training programme on wetland conservation and management, 19 November - 02 December, WII, Dehradun, India. [**O**]
- **Tripathy et. al.** (2000): Measurement of bio-optical parameters and their comparison with SeaWiFs derived products for the waters off Dona Paula, Goa. Remote sensing and its application to ocean studies: training programme on IRS-P4, 21 February - 10 March, NIO, Goa, India. [**O**]

INVITED TALKS:

- **Tripathy, S.C.** (2015). 8th Indian Southern Ocean Expedition: An Overview. At Mauritius Oceanography Institute (MOI), Mauritius on 24th February 2015.
- **Tripathy, S.C.** (2017). 9th Indian Southern Ocean Expedition: An Overview. At Mauritius Oceanography Institute (MOI), Mauritius on 28th February 2017.

BOOKS AND TECHNICAL REPORTS EDITED:

- **Tripathy, S.C**., Mishra, R.K., Mohan, R. and Khare, N. (2013): Studies in Biological Sciences and Human Physiology: Three Decades of Indian Scientific Activities in Antarctica. *A book on Antarctic biology*. ©NCAOR, ISBN: 978-81-906526-8-1.
- N. Anilkumar and **S.C. Tripathy** (2016): Southern Ocean Expedition (2013-14). *Technical/Scientific Report of the 7th Indian Scientific Expedition to Southern Ocean*. ©NCAOR, ISBN: 978-93-5267-057-4, pp. 131.
- N. Anilkumar and **S.C. Tripathy** (2018): Southern Ocean Expedition (2015-16). *Technical/Scientific Report of the 8th Indian Scientific Expedition to Southern Ocean*. ©NCAOR [In Preparation].

THESIS (Ph.D.) EXAMINER:

- 2018: IIT, Madras
- 2017: IIT, Madras; Andhra University, Visakhapatnam; CUSAT, Kochi.
- 2016: IIT, Madras.
- 2015: CUSAT, Kochi.
- 2015: Adikavi Nannaya University, Rajahmundry.
- 2013: IIT, Madras.

JOURNAL REVIEWER:

- Chem. Ecol., Environ. Int., J Oceanogr., EMAS, Est. Coast. Shelf Sc., Rem. Sen. Env., Limnol. Oceanogr. Methods, I J Geo-Mar. Sc., STOTEN, JGR-Biogeosciences, JQSRT, J Coast. Res., GRL, Mar. Pol. Bull.

PROFESSIONAL MEMBERSHIPS:

- National Representative for SCAR-SSG Life Sciences
- Southern Ocean Observation System (SOOS)
- Indian Ocean Primary Production Working Group
- Japanese Oceanographic Society (JOS)

RECOGNIZED GUIDE FOR Ph.D:

- Goa University.
- Mangalore University.

RESEARCH CAPACITY BUILDING:

Dr. Jane Theophline Bhaskar	Post Doctoral Fellow	[DST Woman Scientist Scheme-A]
Ms. Anvita Ulhas Kerkar	Ph.D. Scholar	[DST-INSPIRE Fellow]

RESEARCH PROJECTS INVOLVED:

- Hydrodynamics and Biogeochemistry of the Indian sector of Southern Ocean.
- In situ and satellite-based primary productivity and bio-optical studies for understanding dynamics of Kongsfjorden and Krossfjorden twin ecosystem.

--- Updated on 01st June 2018 ---