

Ms. Melena A. Soares
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Ocean Science Group
National Centre for Antarctic and Ocean Research
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Research Area:

To understand the biogeochemical cycles in marine systems, Nutrient dynamics, Carbon dynamics and Biogeochemistry of Particulate organic matter in Marine systems.

Professional Record:

2011 till date: Project Scientist B at National Centre for Antarctic and Ocean Research

2008-2011: Project Assistant at National Institute of Oceanography

2005: Project Assistant at National Institute of Oceanography

Academic Profile:

2008: **Masters in Sciences (MSc)** in Marine Sciences (Chemistry) from the Goa University, Goa, India.

2005: **Bachelors in Sciences (BSc)** in Chemistry from St. Xavier's College, Goa, India.

Academic Research /Projects:

MSc Thesis: Studies on the effect of treated sewage on nutrients and dissolved organic matter in the Mandovi estuary'.

BSc Thesis: Isolation and study of essential oils' (from plant material) was awarded the **Best project of the year** (2004-2005, St. Xavier's college).

Workshops Attended:

- Attended the National Seminar on "Nanotechnology and its impact on society". Goa, 2010.
 - Actively participated in the 5 day international workshop LOHAFEX held at NIO, Goa, from 16th to 20th Dec 2009.
 - Attended workshop on Science policy interactions on the river basins and coastal zone management, Goa, organized by N.I.O. from 7-8 March, 2006.
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Publication:

- **Soares, M. A.**, Anilkumar, N., 2017. Indian contributions to Chemical Studies in the Indian sector of Southern Ocean. Proceedings of Indian National Science Academy, 83 (2), 377-384, **2017**.
- R. K. Mishra, B. Jena, N. AnilKumar, P. V. Bhaskar and **Melena. A. Soares**. Inter-annual variability of chlorophyll-a and diatoms in the frontal ecosystem of Indian Ocean sector of the Southern Ocean. Polish Polar Research, vol. 38, no. 3, pp. 375-390. **2017**.
- **Soares, M. A.**, Bhaskar, P.V., Naik, R.K., Dessai, D.R.G., George, J.V., Tiwari, M., Anilkumar, N., 2015. Latitudinal $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ variations in Particulate Organic Matter (POM) in surface waters from the Indian Ocean sector of Southern Ocean and the Tropical Indian Ocean in 2012. Deep sea research II, 118; 186-196. **2015**.
- Naik., R. K., George, J.V., **Soares, M. A.**, Asha Devi., Anilkumar, N., Rajdeep Roy., Bhaskar, P. V., Nuncio, M., Achuthanakutty, C.T. Phytoplankton community structure at Subtropical Front in the Indian Ocean sector of Southern Ocean: Bottom-up and top-down control. Deep sea research II, 118; 233-239. **2015**.
- Patrick Martin, Michiel Rutgers van der Loeff, Nicolas Cassar, Pieter Vandromme, Francesco d'Ovidio, Lars Stemmann, R. Rengarajan, **Melena Soares**, Humberto E. González, Friederike Ebersbach, Richard S. Lampitt, Richard Sanders, Bruce A. Barnett, Victor Smetacek, and S. Wajih A. Naqvi. Iron fertilization enhanced net community production but not downward particle flux during the Southern Ocean iron fertilization experiment LOHAFEX: NCP AND PARTICLE FLUX DURING LOHAFEX. Global Biogeochemical Cycles, vol: 27, 1-11. **2013**.
- M.V. Maya, **Melena A. Soares**, Rajesh Agnihotri, A.K. Pratihary, Supriya Karapurkar, Hema Naik and S.W.A. Naqvi, Variations in some environmental characteristics including carbon and nitrogen stable isotopic composition of suspended organic matter in the Mandovi estuary. Environmental Monitoring and Assessment: 175 (1-3); 501-517. **2011**.
- **Technical Reports:**
 - **Southern Ocean Expedition Technical Report 2012.**
Hydrodynamics and biogeochemistry of the Indian Ocean sector of Southern Ocean during the austral summer 2012. Part – II: Chemical Properties. P. V. Bhaskar, **Melena A. Soares**, D.R.G. Dessai.
 - **Southern Ocean Expedition Technical Report 2013**
Distribution of dissolved inorganic carbon (DIC) and stable isotopic composition of particulate organic carbon (POC). **Melena A. Soares**, Bhaskar, P. V., Amit Sarkar, N. Anilkumar.

Frontal dynamics of nutrients and dissolved oxygen along Indian sector of southern ocean during austral summer 2012-13. Sarkar, A., **Soares, M.**, Bhaskar, P. V., Mishra, R. K., George, J. V., Anilkumar, N.

- **Southern Ocean Expedition Technical Report 2014**

Total organic carbon and inorganic carbon dynamics across the fronts in the Indian sector of Southern Ocean during austral summer 2015. **M. A. Soares**, A. Sarkar and N. Anilkumar

Abstracts Submitted at Conferences:

- **Melena A. Soares**, Parli V. Bhaskar, N. Anilkumar, Ravidas K. Naik, Jenson V. George and Deepti Dessai. Autotrophic and heterotrophic processes across the fronts in the Indian sector of Southern Ocean: Insights from $\delta^{13}\text{C}$ characteristics of particulate organic matter. Paper Presentation In. Book of Abstracts OSICON, Thiruvananthapuram, Kerala, **2017**
- A. Sarkar, N. Anilkumar, R.K.Mishra, **M. Soares** and P. Sabu. Cross-front pCO_2 modulation with respect to phytoplankton communities in the Indian sector of Southern Ocean. Paper Presentation In. Book of Abstracts OSICON, Thiruvananthapuram, Kerala, **2017**.
- **Soares, M.A.**, Anilkumar, N., Bhaskar, P.V., Sabu, P., Mishra, R.K., Naik R.K., Sarkar, A., George, J.V., Characteristics Of Particulate Organic Matter Across The Fronts In The Southern Ocean: A Stable Isotope Approach. Paper Presentation In. Book of Abstracts, National Conference on Polar Sciences, Vasco, Goa, pp 58, **2017**.
- Alok k. Sinha, Parli V. Bhaskar, **Melena Soares**, Deepti Dessai, Jenson V. Geoge and N. Anilkumar. Distribution of dissolved monosaccharides and proteins in the Indian sector of Southern ocean. Paper Presentation In. Book of Abstracts, National Conference on Polar Sciences, Vasco, Goa, pp 62, **2017**.
- Ravidas K. Naik, Jenson V. George, **Melena Soares**, N. Anilkumar, P.V. Bhaskar, Nuncio Murukesh, Racheal Chacko, R. K. Mishra, C.T. Achuthankutty. Surface phytoplankton in the Indian Ocean: comparing tropical and Southern Ocean communities. Paper Presentation In. Book of Abstracts, National Conference on Polar Sciences, Vasco, Goa, pp 65, **2017**.
- Amit Sarkar, P. Sabu, N. Anilkumar, R. K. Mishra, **M. Soares**, S. C. Tripathy, R. Naik and R. Chacko. Modulations of inorganic carbon system in mesoscale eddies at subtropical region in the Indian sector of Southern Ocean. Paper Presentation In. Book of Abstracts, National Conference on Polar Sciences, Vasco, Goa, **2017**.
- **Soares, M.A.**, Bhaskar, P.V., Sabu, P., Naik, R.K., Sarkar, A., George, J.V., Anilkumar, N. Characteristics of suspended particulate organic matter in Subtropical Front of the Indian sector of Southern Ocean: Influence of eddies. Poster presented at The XXXIV SCAR Open Science Conference 2016 held at Kuala Lumpur, Malaysia, **2016**.
- P V Bhaskar, **Melena Soares**, Jenson V. George, Haridevi C.K., Asha Devi, Alok Kumar Sinha and N. Anilkumar. Microbial dynamics in frontal regimes of the Indian Ocean Sector of Southern Ocean: Role of organic carbon and grazers. Presented at The XXXIV SCAR Open Science Conference 2016 held at Kuala Lumpur, Malaysia, **2016**.

- **Soares, M. A.**, P. V. Bhaskar, D.R.G. Dessai, Ravidas K. Naik, Jenson V. George, And N. Anilkumar. Variability of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ signatures of suspended particulate organic matter within the euphotic zone of the Indian sector of Southern Ocean during austral summer, 2012. Paper Presentation In. Book of Abstracts, World Ocean Science Congress 2015, Kerala, Kochi P.232. **2015**.
 - Pillai, H, U. K., C.T. Achuthankutty, C.R. Asha Devi, C.K. Haridevi, R.L. Minu, Thara G., P.V. Bhasker, Nuncio M., Jenson V. George, D.R.G. Desai, **Melena Soares**, N. Anilkumar. Mesozooplankton variability in relation to food web structure in the subtropical front in the Indian sector of Southern Ocean during austral summer 2012, Paper Presentation In. Book of Abstracts, World Ocean Science Congress 2015, Kerala, Kochi P.235. **2015**.
 - Sarkar, A., **Soares, M. A.**, Sabu, P., Naik, R. K., George J.V., Anilkumar, N., Inadequate biogeochemical response to the upwelling along Seychelles-Chagos Thermocline Ridge region in the tropical Indian Ocean. Abstract submitted to “Dynamics of the Indian Ocean Perspectives and Retrospective” International Symposium on the Indian Ocean. Goa, India. **2015**.
 - Naik, R.K., George, J.V., **Soares, M.A.**, Anilkumar, N. Surface phytoplankton in the Indian Ocean: comparing northern and Southern hemisphere communities. Abstract accepted for International Symposium on the Indian Ocean, 2015 “Dynamics of the Indian Ocean Perspectives and Retrospective”, at Goa, India. **2015**.
 - George, J. V., Rajasekhar, D., Anilkumar, N., Sabu, P., Amit Sarkar, **Soares, M.A.**, Ravi, N. Boreal summer diapycnal nutrient flux in the *Seychelles-Chagos thermocline ridge*. Abstract accepted for International Symposium on the Indian Ocean, 2015 “Dynamics of the Indian Ocean Perspectives and Retrospective”, at Goa, India. **2015**.
 - **Soares, M.A.**, Bhaskar P.V., Dessai D., Naik R., George J.V., Manish Tiwari, Anilkumar N. Latitudinal variation of $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ in Particulate Organic Matter (POM) from surface waters of Indian Ocean sector of Southern Ocean and Tropical Indian Ocean during 2012. Poster presented during XXXIII SCAR Open Science Conference, 2014 at Auckland, New Zealand. **2014**.
 - Dessai D.R.G., **Soares M.A.**, Pavithran S., Chacko R., George J.V, Bhaskar P.V., Anilkumar N., Achuthankutty C.T., 2012. Spatial and Vertical Distributions of Nutrients along 57°30'E and 47°E in the Indian Sector of the Southern Ocean. Abstract accepted in AOGS. **2012**
 - M. V. Maya, S. G. Karapurkar, **M. A. Soares**, R. Agnihotri, R. Roy. H. Naik and S.W.A. Naqvi. Variability of nitrogen stable isotope in suspended organic matter in waters of the western continental shelf of India and the Mandovi estuary. Goldschmidt Conference Abstracts, 1431, held at Czech Republic, **2011**.
 - M.V. Maya, S.G. Karapurkar, **M. A. Soares**, H. Naik and S. W. A. Naqvi. Carbon and nitrogen stable isotopic composition of suspended organic matter in a tropical estuary. A case study of the Mandovi estuary, India. The 14th ISMAS Symposium cum Workshop on Mass Spectrometry, held at Munnar, Kerala, **2011**.
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Workshops Attended:

- Attended the National Seminar on “Nanotechnology and its impact on society”. Goa, 2010.
 - Actively participated in the 5 day international workshop LOHAFEX held at NIO, Goa, from 16th to 20th Dec 2009.
 - Attended workshop on Science policy interactions on the river basins and coastal zone management, Goa, organized by N.I.O. from 7-8 March, 2006.
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Onboard Experience

- ☞ Southern Ocean expedition-10 onboard Aghulus I – 60 days
 - ☞ Southern Ocean expedition-08 onboard RV Sagar Nidhi - 45days
 - ☞ Multidiciplinary expedition in the Tropical Indian Ocean -30days
 - ☞ Southern Ocean expedition-07 onboard RV Sagar Nidhi - 45days
 - ☞ Southern Ocean expedition-06 onboard RV Sagar Nidhi - 45days
 - ☞ LOHAFEX (Iron Fertilization) in the Southern Ocean onboard FS Polarstern -70 days.
 - ☞ NIO –NCAOR joint expidition in Bay of Bengal onboard R/V Marion Dufrense - 30 days.
 - ☞ Multidisciplinary expedition in Bay of Bengal onboard RV Sagar Kanya- 30days.
 - ☞ Multidisciplinary expedition in the Bay of Bengal onboard FORV Sagar Sampada -55 days.
 - ☞ Cruise Off Goa Coast on Board Sagar Shukti- 8 days.
 - ☞ Numerous one day field trips on trawlers in Mandovi, Zuari estuary
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