

ACADEMIC RECORD

1. Doctor of Philosophy in Marine Science, Goa University, 2010.
2. Master of Science in Marine Sciences, Goa University, 2000.
3. Bachelor of Science in Zoology, Goa University, 1998.

CAREER RECORD

- 2020-till date Assistant Professor in Marine Science, Goa University.
- 2016-2020 Project Scientist C, Hydrothermal Research Laboratory, National Centre for Polar and Ocean Research (NCPOR), Goa.
- 2015-2016 Researcher, Center for Earth Surface System Dynamics, Atmosphere and Ocean Research Institute, The University of Tokyo, Japan.
- 2012-2015 Quick Hire Fellow, CSIR-National Institute of Oceanography (NIO), Goa, India.
- 2011-2012 Post-doctoral Researcher, Mediterranean Institute of Oceanography (MIO), Aix-Marseille Université, France; Research Associate, CSIR-NIO, Goa.
- 2010 - 2011 Project Associate, CSIR-NIO, Goa.
- 2009-2010 Project Assistant III, CSIR-NIO, Goa.
- 2006-2009 Senior Research Fellow, CSIR-NIO, Goa.
- 2003-2006 Project Assistant III, CSIR-NIO, Goa.

PUBLICATIONS

1. Periasamy R., **Fernandes S.O.**, Kurian P.J., Ingole B. Molecular identification of deep-sea blind lobster *Willemoesia forceps* (Crustacea: Decapoda: Polychelidae) from the Central Indian Ridge. 2020. *Mitochondrial DNA Part B* 5(1): 1013–1014.
2. **Fernandes S.O.**, Lankalapalli S. P., Binish M. B., Krishnan K. P., Kurian J. 2018. Changes in morphology and metabolism enable Mn-oxidizing bacteria from mid-oceanic ridge environments to counter metal-induced stress. *Journal of Basic Microbiology* 1-13.
3. Das A., Singh T., LokaBharathi P.A., Dhakephalkar P. K., Mallika S., Kshirsagar P. R., Khadge N.H., Nagender Nath B., Bhattacharya S., Dagar A. K., Kaur P., Ray D., Shukla A.D., Fernandes C.E.G., **Fernandes S.O.**, Thomas T.R.A., Mamatha S.S., Mourya B.S., Meena R.M. 2017. Astrobiological implications of dim light phototrophy in deep-sea red clays. *Life Sciences in Space Research* 12: 39–50.
4. Gonsalves M.J., **Fernandes S.O.**, M. Lakshmi Priya, LokaBharathi P.A. 2017. Grazing of particle-associated bacteria – an elimination of the non-viable fraction. *Brazilian Journal of Microbiology* 48(1): 37–42.

5. **Fernandes S.O.**, Dutta P., Gonsalves M.J., Bonin P., LokaBharathi P.A. 2016. Denitrification activity in mangrove sediments varies with associated vegetation. *Ecological Engineering* 95: 671-681.
6. **Fernandes S.O.**, Javanaud C., Michotey V.D., Minjeaud L., Guasco S., Anschutz P., Bonin P. 2016. Coupling of bacterial nitrification with denitrification and anammox supports N removal in intertidal sediments (Arcachon Bay, France). *Estuarine Coastal Shelf Science* 179: 39-50.
7. Fernandes C.E.G., Malik A., Jineesh V.K., **Fernandes S.O.**, Das A., Pandey S., Kanolkar G., Sujith P.P., Velip D.M., Shaikh S., Helekar S., Gonsalves M.J., Nair S., LokaBharathi P.A. 2015. An appraisal of biological responses and network of environmental interactions in non-mining and mining impacted coastal waters. *Environmental Science and Pollution Research* 22(16): 12544-12558.
8. **Fernandes S.O.**, Javanaud C., Aigle A., Michotey V.D., Guasco S., Garcia N., Deborde J., Deflandre B., Anschutz P., Bonin P. 2015. Anaerobic nitrification-denitrification mediated by Mn-oxides in meso-tidal sediments: implications for N₂ and N₂O production. *Journal of Marine Systems* 114: 1-8.
9. **Fernandes S.O.**, Halarnekar R., Malik A., Vijayan V., Varik S., Kumari R., Jineesh V.K., Gauns M.U., Nair S., LokaBharathi P.A. 2014. Nitrate reducing activity pervades surface waters during upwelling. *Journal of Marine Systems* 137: 35-46.
10. **Fernandes S.O.**, Kirchman D.L., Michotey V.D., Bonin P.C., LokaBharathi P.A. 2014. Bacterial diversity in relatively pristine and anthropogenically-influenced mangrove ecosystems (Goa, India). *Brazilian Journal of Microbiology* 45(4): 1161-1171.
11. **Fernandes S.O.**, Gonsalves M.J., Michotey V.D., Bonin P.C., LokaBharathi P.A. 2013. Denitrification activity is closely linked to the total ambient Fe concentration in mangrove sediments of Goa, India. *Estuarine Coastal Shelf Science* 131: 64-74.
12. **Fernandes S.O.**, Sreepada R.A., Kulkarni S.S., Karekar S.V., Shirodkar R.R., Vogelsang C., LokaBharathi P.A. 2013. Low-input modified extensive shrimp culture systems for *Penaeus monodon* restrain vibriosis. *International Journal of Marine Science* 3(40): 319-332.
13. **Fernandes S.O.**, Bonin P.C., Michotey V.D., Garcia N., LokaBharathi P.A. 2012. Nitrogen-limited mangrove ecosystems conserve N through dissimilatory nitrate reduction to ammonium. *Scientific Reports* 2, 419; DOI:10.1038/srep00419.
14. **Fernandes S.O.**, Michotey V.D., Guasco S., Bonin P.C., LokaBharathi P.A. 2012. Denitrification prevails over anammox in tropical mangrove sediments (Goa, India). *Marine Environmental Research* 74: 9-19.
15. Gonsalves M.J., Fernandes C., **Fernandes S.O.**, Kirchman D.L., LokaBharathi P.A. 2011. Effects of composition of labile organic matter on biogenic production of methane in the coastal sediments of the Arabian Sea. *Environmental Monitoring and Assessment* 182: 385-395.

16. Antony R., Sujith P.P., **Fernandes S.O.**, Verma P., Khedekar V.D., LokaBharathi P.A. 2011. Cobalt immobilization by manganese oxidizing bacteria from Indian Ridge system. *Current Microbiology* 62(3): 840–849.
17. **Fernandes S.O.**, LokaBharathi P. A. 2011. Nitrate levels modulate denitrification activity in tropical mangrove sediments (Goa, India). *Environmental Monitoring and Assessment* 173(1-4): 117–125.
18. **Fernandes S.O.**, Bonin P.C., Michotey V.D., LokaBharathi P.A. 2010. Denitrification: An important pathway for nitrous oxide production in tropical mangrove sediments (Goa, India). *Journal of Environmental Quality* 39(4): 1507–1516.
19. **Fernandes S.O.**, Kulkarni S.S., Shirodkar R.R., Karekar S.V., Praveen Kumar R., Sreepada R.A., Vogelsang C., LokaBharathi P.A. 2010. Water quality and bacteriology in an aquaculture facility equipped with a new aeration system. *Environmental Monitoring and Assessment* 164(1-4): 81–92.
20. Divya B., **Fernandes S.O.**, Sheelu G., Nair S., LokaBharathi P.A., Chandramohan D. 2009. Limnotolerant bacteria govern nitrate concentration in Mandovi estuary, India. *Estuarine Coastal Shelf Science* 82: 29–34.
21. Krishnan K.P., **Fernandes S.O.**, LokaBharathi P.A., Krishna Kumari L., Nair S., Pratihary A.K., Ramalingeswara Rao B. 2008. Anoxia over the western continental shelf of India: Bacterial indications of intrinsic nitrification feeding denitrification. *Marine Environmental Research* 65: 445–455.
22. Krishnan K.P., **Fernandes S.O.**, Chandan G.S., LokaBharathi P.A. 2007. Bacterial contribution to mitigation of iron and manganese in mangrove sediments. *Marine Pollution Bulletin* 54: 1427–1433.
23. Krishnan K.P., Fernandes C., **Fernandes S.O.**, LokaBharathi P.A. 2006. Tolerance and immobilization of cobalt by some bacteria from ferromanganese crusts of the Afanasiy Nikitin Seamounts. *Geomicrobiology Journal* 23:31–36.
24. **Fernandes S.O.**, Krishnan K.P., Khedekar V. D., LokaBharathi P.A. 2005. Manganese oxidation by bacterial isolates from the Indian Ridge System. *Biometals* 18:483–492.

OTHER PUBLICATION

Fernandes S.O. 2007. Arabian Sea beckons..... I respond. *Tauz: a journal on Science, Religion and Society*. 1:35–37.

NATIONAL CONFERENCES

1. **Fernandes S.O.**, Krishnan K.P., LokaBharathi P.A. 2004. Immobilization of Manganese and its Tolerance by Bacterial Strains Isolated from Carlsberg Ridge Waters, Arabian Sea. Conference on Microbiology of the Tropical Seas, December 13-15, National

Institute of Oceanography, Goa, India.

2. Krishnan K.P., Kumari L.K., **Fernandes S.O.**, Rodrigues V., LokaBharathi P.A. 2004. Response of bacterial biomass and viability to the monsoon cycle in the coastal Arabian Sea. Conference on Microbiology of the Tropical Seas, December 13-15, National Institute of Oceanography, Goa, India.

INTERNATIONAL CONFERENCES / SYMPOSIUMS

1. **Fernandes S.O.**, Lankalapalli S.P., Arvapalli S.R., Wong S.K., Kurian P.J. 2018. Microbial functional gene diversity along the Central and South West Indian Ridges: A GeoChip-based approach. SCOR-InterRidge workshop on mid-ocean ridges and other geological features of the Indian Ocean, 14-16 Nov 2018, CSIR-National Institute of Oceanography, Goa.
2. Srinivas A., Surya Prakash L., **Fernandes S.O.**, Resing J.A., John Kurian. 2018. Exploration of seafloor hydrothermal activity through mapping of physical and biogeochemical tracers in the water column: Observations from 23° S Southern Central Indian Ridge. 40th Annual Convention, Seminar and Exhibition on Exploration Geophysics, 1-3 Nov 2018, Indian Institute of Technology, Mumbai.
3. Bonin P., **Fernandes S.O.**, Zaghmouri I., Guasco S., Deflandre B., Michotey V. D., Bernard G., Anschutz P. Nitrogen cycling in Arcachon Bay (Bay of Biscay): Impact of *Zostera* spp. meadows. ISOBAY14 - XIV International Symposium on Oceanography of the Bay of Biscay, 11-13 June 2014, Bordeaux, France.
4. Fernandes, C.E.G., **Fernandes, S.O.**, Gonsalves M.J.B.D., Das A., Sujith P.P., LokaBharathi P.A. 2010. Benthic bacterial diversity: iron ore dominated mangroves versus ilmenite-rich beach sediments. J. Frederick Grassle Science Symposium on the Census of Marine Life (Census of Marine Life – A Decade of Discovery 2010) October 4-6, The Royal Society, Central London, England.
5. **Fernandes S.O.**, Gonsalves M.J.B.D., Fernandes C.E.G., Sujith P.P., Das A., Naik S., LokaBharathi P.A. 2010. Insights on bacterial diversity in varied marine ecosystems in the Indian Ocean region with special reference to mangroves. International Conference on Aquatic Microbiology (Status, Challenges & Opportunities), September 2-4, CAS in Marine Biology, Annamalai University, Tamil Nadu, India.
6. Das A., Sujith, P.P., **Fernandes S.O.**, Antony R., LokaBharathi P.A. 2009. Chemosynthetic Activity in Deep-sea Environments of Indian Ocean 4th International Symposium on Chemosynthesis-Based Ecosystems–Hydrothermal Vents, Seeps and Other Reducing Habitats. June 29-July 3, Okinawa, Japan.
7. Gonsalves M.J., Fernandes C.E.G., **Fernandes S.O.**, Sujith P.P., Das A., Naik S., LokaBharathi P.A. 2009. Perspectives of microbial diversity in varied marine ecosystems in the Indian Ocean region. Poster presentation at International Census of Marine Microbes 454 Users Spring Meeting April 6-9, Woods Hole, Massachusetts, USA.

8. Antony R., Sujith P.P., **Fernandes S.O.**, LokaBharathi P.A. 2008. Abundance and activity of metal immobilizing bacteria in Carlsberg Ridge ecosystem. AOGS 5th Annual General Meeting, 16-20 June, Busan, Korea.
9. **Fernandes S.O.**, Krishnan K.P., Nair S., Pratihary A.K., LokaBharathi P.A. 2007. Anoxia in coastal Arabian Sea: Evidences from spatial dissociation of oxidizing bacteria from reducers. Poster presented at 3rd SOLAS Summer School, 22 October - 3 November, Institut d'Etudes Scientifiques de Cargèse, Université de Corse, France.
10. **Fernandes S.O.**, Krishnan K.P., Nair S., Pratihary A.K., LokaBharathi P.A. 2007. Anoxia in the coastal Arabian Sea: bacterial evidences through the spatial decoupling phenomenon. Oral presentation at 3rd International Conference on Environmental Science & Technology, 6-9 August, Houston, Texas, USA.
11. **Fernandes S.O.**, Serin A., LokaBharathi P.A. 2006. Nitrate mitigation in mangrove sediments. Oral presentation at the 7th Asia Pacific Marine Biotechnology Conference, 2-5 November 2006, Kochi-India.
12. Fernandes S.O., Krishnan K.P., LokaBharathi P.A., Mirza I., Ray D., Kaisary S., Rao B.R., Kamesh Raju K.A. 2006. Bacteria orchestrate methane and metal concentrations in seawater: examples from the Central Indian Ridge 11th International Deep-Sea Biology Symposium, 9 -14 July, Southampton, UK.
13. Krishnan K.P., Rao B.R., **Fernandes S.O.**, LokaBharathi P.A. 2005. Methanotrophy: Ammonia-oxidizers Synchronize with Methane Distribution. InterRidge Workshop on Tectonic and Oceanic Processes along the Indian Ocean Ridge System, January 19-21, National Institute of Oceanography, Goa, India in association with InterRidge, Kiel, Germany.
14. **Fernandes S.O.**, Krishnan K.P., Khedekar V. D., LokaBharathi P.A. 2005. Manganese Oxidation by Bacterial Isolates from Ridge Ecosystems. *InterRidge* Workshop on Tectonic and Oceanic Processes along the Indian Ocean Ridge System, January 19-21, National Institute of Oceanography, Goa, India in association with InterRidge, Kiel, Germany.

AWARDS / ACCOMPLISHMENTS

2011 **Research Associateship** (RA) by the Council of Scientific & Industrial Research, Government of India for advanced research in Earth Sciences.

2010 "**Best paper award**" for the paper:

Fernandes S.O., Gonsalves M.J.B.D., Fernandes C.E.G., Sujith P.P., Das A., Naik S., LokaBharathi P.A. 2010. Insights on bacterial diversity in varied marine ecosystems in the Indian Ocean region with special reference to mangroves. International Conference on Aquatic Microbiology (Status, Challenges & Opportunities), September 2-4, CAS in Marine Biology, Annamalai University, Tamil Nadu, India.

- 2008 ***Sandwich PhD Scholarship*** by the Embassy of France in India to carry out part of the doctoral research in France.
- 2006 ***Senior Research Fellowship*** (SRF) by the Council of Scientific & Industrial Research, Government of India for advanced studies in Earth Sciences.
- 2005 ***"InterRidge Outstanding Student Paper Award"*** for the poster:
Fernandes S.O., Krishnan K.P., Khedekar V. D., LokaBharathi P.A. 2005. Manganese Oxidation by Bacterial Isolates from Ridge Ecosystems. InterRidge Workshop on Tectonic and Oceanic Processes Along the Indian Ocean Ridge System, January 19-21, National Institute of Oceanography, Goa-India in association with InterRidge, Kiel, Germany.
- 2004 ***"Best paper presentation award"*** for the co-authored paper:
 Krishnan K.P., Kumari L.K., **Fernandes S.O.**, Rodrigues V., LokaBharathi P.A. 2004. Response of bacterial biomass and viability to the monsoon cycle in the coastal Arabian Sea. Conference on Microbiology of the Tropical Seas held on December 13-15, National Institute of Oceanography, Goa-India.

STUDENT SUPERVISION AND TRAINING

Dissertations supervised for the award of Master of Science at CSIR-NIO, Goa

- Lal A. 2015. Taxonomic diversity of culturable denitrifiers from mangrove sediments. Vellore Institute of Technology, Tamil Nadu, India.
- Dutta P. 2014. Studies on mangrove vegetation and sediment characteristics at Divar, Goa. Hislop College, Nagpur.

Research work of internship students supervised at NCPOR, Goa

- Santra T. 2019. Microbial abundance in water column along the Central and South West Indian Ridges. Department of Marine Science, University of Calcutta, West Bengal.
- Anandhu A.S., Goyal N. 2019. Taxonomic identification of heterotrophic and nitrate reducing bacteria from Central Indian Ridge and South West Indian Ridge. Cochin University of Science and Technology, Cochin, Kerala.

Kumari N. 2018. Influence of pertinent physico-chemical variables on prokaryotic abundance in water column along the Central Indian Ridge. Government College of Science, Arts and Commerce, Khandola, Goa.

Sreerag A. 2018. Diversity of Mn (II) tolerant bacteria from the Indian Ridge system using a culture-based approach. Cochin University of Science and Technology, Cochin, Kerala.

Shaikh F.B. 2017. Enumeration of total prokaryotic cells from the Central and South West Indian ridge waters. Parvatibai Chowgule College, Goa.

PROFESSIONAL SERVICE

1. Manuscripts reviewed for International Journal of Fisheries and Aquaculture, Marine Ecology Progress Series, Marine Biology Research, Polar Biology, Journal of Coastal Research, Journal of Earth System Science, International Journal of Marine Science, Soil Science and Plant Nutrition.
2. Reviewer for research proposals submitted to the Research Grants Council, Hong Kong.