

Shramik CV

CIVIL STATUS

Name: Shramik Maruti Patil Born: April 02, 1984 in Kolhapur, India
Married; 1 children; Nationality: Indian

EMPLOYMENT STATUS

Scientist 'E'

National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Science, Goa, India- 403804
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SUMMARY OF MAIN ACHIEVEMENTS

Marie Curie Postdoctoral Fellowship Award- September 2023 (2 year+6 months) (**Postdoc, 211 754.88€ Grant**)
(To work on- Southern Indian Ocean climate evolution and its global linkages (SO-Link))

SERB-SRS Award- March 2021-2023 (+1 year Extension) (**Postdoc, Salary + ~18,000€ Grant**)
(To work on coccolithophores during Quaternary period from the Southern Ocean)

DST-INSPIRE Faculty Award- March 2016- March 2021 (**Postdoc, Salary + ~50,000€ Grant**)
(To work on extant coccolithophores, and coccoliths in sediments from the Southern Ocean for paleoenvironmental interpretations; to develop coccolith size based SST and SSS proxy)

DST National Postdoc Fellowship Award- May, 2016 (not availed) (**Postdoc, Salary + ~5,000€ Grant**)
(To work on late quaternary coccolithophores from the Southern Indian Ocean)

SCAR Fellowship award 2017 and Prince Albert II of Monaco Fellowship award. (**Postdoc, Grant 11,000 USD**)
(To learn culture techniques and carry out experiments on coccolithophores for SST proxy development)

IITM Research Associate fellowship-July 2015 (not availed) (**Postdoc**)

Obtained **certificate of skill of excellence** for Marie Curie project proposal twice (IF) 845271 and (IF) 101106610
Five travel grants (DST-SERBx2, PAGES, SBR, French Embassy) to attend meetings, conferences, training
Highly contributed in developing Polar nannoplankton/microplankton research laboratory at NCPOR with state of art instrumentation facilities [e.g. coccolithophore culture laboratory, SEM, FE-SEM, light microscopes, other several instruments, and polar sample storage facilities (Only of its kind in India)].

CURRENT RESEARCH INTERESTS (BUT NOT LIMITED TO-)

- Calcareous and siliceous micro- and nannoplankton as indicators for climate induced changes in marine productivity and oceanic ecosystem structure
- Phytoplankton ecology, biogeography, taxonomy and environmental impact studies
- Isolating phytoplankton strains from the Southern Ocean and carrying out laboratory controlled experiments to study climatic changes
- Response of micro- and nannoplankton to carbonate chemistry and ocean acidification
- Calcareous and siliceous nanno- and microplankton mineralization in the changing climate
- Biogeography and poleward expansion of calcareous nannoplankton
- Developing new coccolith and diatom size based paleotemperature and paleosalinity proxies
- Effect of glacier melting and Air-Ice-Sea gaseous exchange on Antarctic coastal ecosystem structure
- Southern Ocean paleoceanography and paleoproductivity using isotopes of calcareous and siliceous fossils
- Southern Ocean past hydrographic changes, frontal dynamics, teleconnection between Southern Ocean sectors
- Exploring links between polar high latitudes climate and Indian monsoon intensity
- Fate of mineralizing protists in the future oceans
- Calcareous nannofossil and siliceous microfossil biostratigraphy (Triassic to recent)
- Policymaking, planning and management related to phytoplankton ecology and taxonomy

PROFESSIONAL EXPERIENCE

16-02-2024 to till date	Scientist 'E' at NCPOR, Goa, India
21-03-2023 to 14-02-2024	Project Scientist III at NCPOR, Goa, India
17-03-2021 to 16-03-2023	SERB-SRS (Post-doctoral fellow) at NCPOR, Goa, India
04-05-2019 to 02-08-2019	SCAR Fellow (SCAR Fellowship program) at SBR, Roscoff, France
17-03-2016 to 16-03-2021	DST INSPIRE FACULTY (Post-doctoral fellow) at NCPOR, Goa, India
20-09-2010- 31-12-2015	Research fellow (Senior) , at NCPOR, Goa, India
20-09-2007-19-09-2010	Research fellow (Junior) , at NCPOR, Goa, India

EDUCATION

08-10-2015	PhD in Marine Science, at Goa University, India; Research area - Southern Ocean <i>Thesis: Extant coccolithophores from the Southern Indian Ocean</i> Thesis supervisor: Dr. Rahul Mohan (Scientist, NCPOR)
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Thesis examiner: Prof. Ashok Sahni (Emeritus Professor, INSA Senior Scientist)

31-05-2007

Masters in Marine Biology at Dharwad University, Karnataka, India.

12-05-2005

Bachelors in Zoology at Shivaji University, Kolhapur, India.**PRIZES AND AWARDS**

- 2024 **Marie Curie postdoctoral fellowship (IF) 101151078 (95.6%)**
 2023 **Certificate of Seal of Excellence for Marie Curie proposal (IF) 101106610 (89%)**
 2021 **SERB-SRS (Science and Engineering Research Board-Research Scientist) award**
 2020 **Certificate of Seal of Excellence for Marie Curie proposal (IF) 845271 (86%)**
 2019 **Partial grant to attend 12th Advance Phytoplankton Course (APC-12)**
 2019 **Grant from the French Embassy to attend IFCPAR/CEFIPRA (at Lyon, France) to decide priority research areas between India and France in the field of Marine Science.**
 2017 **SCAR (Scientific Committee for Antarctic Research) Fellowship Award 2017**
 2017 **DST-SERB travel grant to attend 16th INA meeting, Greece**
 2017 **PAGES grant to attend 3rd PAGES YSM and 5th PAGES OSM, Spain**
 2016 **DST-INSPIRE Faculty Award**
 2016 **DST-National Postdoc Fellowship award (not availed)**
 2015 **IITM RA Fellowship (Indian Institute of tropical Meteorology, Research Associate) (not availed)**
 2015 **DST-SERB travel grant to attend 15th INA meeting, Philippines**
 2012 **1st Prize for poster presented at IPY conference, Montreal, Canada (500 CAD)**

FUNDING RECEIVED

- 2024 **Marie Curie Postdoctoral fellowship** (211 754.88 euros) (Role: **Coordinator**)
 2022-25 **PRydz bay Air Ice Sea Exchange (PRAISE) Program** (1.8 million euros) (Role: **Co-coordinator**)
 2021-23 **Coordinator of SERB-SRS individual funded project** *Past warm periods as benchmarks to future climate*; (salary equivalent to IIT assistant professor (similar to DST-INSPIRE) + ~17,000 € for two years; extendable for third year with salary + additional ~8,500 € research grant)
 2019 **Coordinator SCAR Fellowship project** *Response of Southern Indian Ocean Coccolithophores to climate change: evidence from laboratory controlled experiments* (at Station Biologique de Roscoff – 11,000 USD)
 2016-21 **Coordinator DST-INSPIRE Faculty Award** *Coccolithophores from the Southern Ocean: species specific ecology and their paleoceanographic implications* (salary equivalent to IIT assistant professor (highest postdoc salary in India) + ~50,000 € research grant for five years)
 2016-18 **Coordinator National Postdoctoral Fellowship award (Not availed)** (salary + ~5000 € research grant)
 > 2011 **Participation** in various national and international research projects, **PACER (NCPOR), PACT (INDIA+RUSSIA), OCTEL (INDIA+NORWAY), Antarctic Lake Program (India+Japan+UK)**

PUBLICATIONS

	First author	students	collaborators	Total
Rank A	9	1	14	25
Other	1	0	3	4
Chapters	0	0	3	3

Total papers	32
H index	11
Total citations	359
2021 Mean impact factor	>2.2

RANK A PUBLICATIONS (IF>1.1)**Published**

- Patil, S.M., et al. (In press). *Alisphaera crostai* sp. nov. (prymnesiophyceae), a new coccolithophore species from the Southwest Indian Ocean, *Micropaleontology*.
- Deshmukh, P., et al. (2024). Phytoplankton community structure during the melting phase of the land-fast ice in Prydz Bay, East Antarctica. *Polar Science*, 40, 101046.
- Noronha-D'Mello, C.A. et al. (2023). High resolution insights of physical properties of water columns of lakes at the Larsemann Hills, East Antarctica, *Polar Science*, 100983. doi.org/10.1016/j.polar.2023.100983.
- Choudhari, P., et al. Nair, A., Mohan, R., Patil, S. (2023). Variations in the Southern Ocean carbonate production. Preservation, and hydrography for the past 41,000 years: Evidence from coccolith and CaCO₃ records. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 614, 111425. Doi.org/10.1016/j.palaeo.2023.111425.
- George, J.V., et al. (2022). Physical control on the inter-annual variability of summer dissolved nutrient concentration and phytoplankton biomass in the Indian sector of Southern Ocean. *Oceanologia*, 64(4), 675-693. doi.org/10.1016/j.oceano.2022.06.003.
- Patil, S.M.**, et al. (2022). *Emiliana huxleyi* biometry and calcification response to the Indian sector of the Southern Ocean environmental gradients. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 485, 110725. doi.org/10.1016/j.palaeo.2021.110725.

7. Shetye, S.S., et al. (2021). Diatom distribution in the Enderby Basin, East Antarctica. *Polar Science*, 100748. doi.org/10.1016/j.polar.2021.100748.
8. Choudhari, P., et al. (2020). Use of coccolith based proxies for paleoceanographic reconstructions. *Current Science*, 119(2), 307-315. doi.org/10.18520/cs/v119/i2/307-315.
9. **Patil, S.M.**, et al. (2020). Inter annual changes of austral summer coccolithophore assemblages and southward expanse in the Southern Indian Ocean. *Deep Sea Research II*, 178, 104765. doi.org/10.1016/j.dsr2.2020.104765.
10. Nuruzzama, M., et al. (2020). Dissolved major ions, Sr and $^{87}\text{Sr}/^{86}\text{Sr}$ of coastal lakes from Antarctica: Solute sources and glacial weathering. *Hydrological Processes*, 34(11), 2351-2364. doi.org/10.1002/hyp.13734.
11. Rigual-Hernández, A.S., et al. (2020). Does carbonate chemistry drive seasonality of *E. huxleyi* ecotypes in the Subantarctic Southern Ocean? *Nature reports*, 10:2594. doi.org/10.1038/s41598-020-59375-8.
12. Shetye, S., et al. (2019). Hidden biogeochemical anonymities under Antarctic Fast Ice. *Regional studies in Marine Science*, 31, 100789. doi.org/10.1016/j.rsma.2019.100789.
13. **Patil, S.**, et al. (2019). The coccolithophore family Calciosoleniaceae with report of a new species: *Calciosolenia subtropicus* from the southern Indian Ocean. *Micropaleontology*, 65(5), 459-471.
14. Subha Anand, S., et al. (2019). Trace elements and Sr, Nd isotope compositions of surface sediments in the Indian Ocean: An evaluation of sources and processes for sediment transport and dispersal. *Geochemistry, Geophysics and Geosystems*, 20(6), 3090-3112. doi.org/10.1029/2019GC008332.
15. **Patil, S.M.**, et al. (2017). Biogeographical distribution of extant Coccolithophores in the Indian Sector of the Southern Ocean. *Marine Micropaleontology*, 137, 16-30. dx.doi.org/10.1016/j.marmicro.2017.08.002.
16. Jordan, R.W., et al. (2016). Observations on the morphological diversity and distribution of two siliceous nannoplankton genera, Hyalolithus and Petasaria. *Micropaleontology*, 61(6), 439-455.
17. Shetye, S.S., et al. (2015). Oceanic pCO₂ in the Austral summer-winter transition phase. *Deep Sea Research II*, 118B, 250-260. dx.doi.org/10.1016/j.dsr2.2015.05.017.
18. **Patil, S.**, et al. (2015). *Petasaria heterolepis* (Prymnesiaceae) from the Southern Indian Ocean. *Micropaleontology*, 61(3), 171-176.
19. **Patil, S.**, et al. (2014). *Prymnesium neolepis* (Prymnesiophyceae), a siliceous Haptophyte from the Southern Indian Ocean. *Micropaleontology*, 60(5), 475-481.
20. **Patil, S.M.**, et al. (2014). Morphological variability of *Emiliana huxleyi* in the Indian Sector of the Southern Ocean during the austral summer of 2010. *Marine Micropaleontology*, 107, 44-58. dx.doi.org/10.1016/j.marmicro.2014.01.005.
21. Shetye, S., et al. (2014). Diatom bloom driven Silica depletion under Antarctic sea ice: evidence from Sponge spicules. *Current Science*, 107(2), 273-277.
22. **Patil, S.**, et al. (2013). Phytoplankton abundance and community structure in the Antarctic polar frontal region during austral summer of 2009. *Chinese Journal of Oceanology and Limnology*, 31(1), 21-30. dx.doi.org/10.1007/s00343-013-1309-x.
23. George, J.V., et al. (2013). Role of physical processes in chlorophyll distribution in western tropical Indian Ocean. *Journal of Marine Systems*, 113-114, 1-12. dx.doi.org/10.1016/j.jmarsys.2012.12.001.
24. Gandhi, N., et al. (2012). Zonal variability in productivity and nitrogen uptake rates in the southwestern Indian Ocean and Southern Ocean. *Deep Sea Research I*, 67, 32-43. dx.doi.org/10.1016/j.dsr2012.05.003.
25. Mohan, R, et al. (2011). Diatoms from surface sediments of Enderby Basin of Indian Sector of Southern Ocean. *Journal of Geological Society of India*, 78, 36-44.

PUBLICATIONS OF OTHER RANKS

1. Mohan, R., et al. (2020). Recent Indian Contributions from the polar realm. *Proceedings of Indian National Science Academy*, 86 (1), 569-583. doi.org/10.16943/ptinsa/2020/49806.
2. **Patil, S.M.**, et al. (2016). Xenospheres and anomalous coccospheres from plankton samples of the Southern Indian Ocean. *Journal of Nannoplankton Research*, 36(2), 1-4.
3. Mohan, R., et al., (2010). Diatom Morphometry and its application in deciphering past climatic changes. *Gondwana Geological Magazine, Special Issue on Applied Micropaleontology*, 25(1), 133-138.
4. Shetye, S., et al. (2012). Sea Surface pCO₂ in the Indian Sector of the Southern Ocean during Austral Summer of 2009. *Advances in Geosciences*, 28, 79-92

BOOK CHAPTERS

1. Mohan, R., et al., (2022). Biogeochemistry and ecology of the Indian Sector of the Southern Ocean, *AGU books*.
2. **Patil, S.**, et al., (2014). Calcification and Variability of Coccolithophorid *Emiliana huxleyi* in the Southern Indian Ocean during Austral Summer. *Southern Ocean Technical Report, NCAOR*.
3. Shetye, S., et al., (2014). Phytoplankton distribution in coastal Antarctica during austral summer 2010, *Southern Ocean Technical Report, NCAOR*.

MANUSCRIPTS UNDER REVISION/UNDER REVIEW:

1. **Patil et al.** (*Crotalia jafari*: a new weakly calcified holococcolithophore genus and species from the Southwest Indian Ocean.) *Under Review: Micropaleontology*.
2. George et al. (Air-Ice-Sea interaction in Quilty Bay during austral winter-spring of 2022: preliminary result from PRAISE ice tethered mooring system) *Under Review: Polar Science*.

INVITED PRESENTATIONS (International and National)

	Oral presentations	Posters	Oral/Posters by collaborators	Total
International	1	7	3	11
National	6	4	5	15

Oral presentations (a few selected)

1. **Patil, S.M.**, et al. Southern Ocean calcifying nannoplankton in the changing climate [OSICON, 23-25 August, 2023]
2. Rigual- Hernández, A., et al. Coccolith mass variability and contribution to carbonate production of coccolithophores in the Southern Ocean: modern versus fossil assemblages. [AGU Fall Meeting, 10-14 December, 2018].
3. **Patil, S.M.**, et al. Is *Emiliania huxleyi* expanding its presence in Southern Ocean? Evidences from multiyear observations. [16th INA meeting, 23-28 September, 2017].
4. Gazi, S., et al. Taxonomy at Microscopic Scale” Significant observations from the Southern Indian Ocean using FE-SEM technique. [ICEM, 18-20 July, 2018].
5. Gazi, S., et al. Scanning electron microscopic observations of rarely silicifying haptophytes from the Southern Indian Ocean. [ICEM, 9-11 July, 2014].

Poster presentations (a few selected)

1. **Patil S.M.**, et al. Coccolithophore calcification response to environmental changes and its implication on carbonate burial in the Southern Indian Ocean [National Conference on Polar Sciences, 17-19 May, 2023]
2. **Gazi, S.**, et al. The organic scales of Haptophytes from the Southern Indian Ocean: An application study using FE-SEM technique [National Conference on Polar Sciences, 17-19 May, 2023]
3. **Patil, S.M.** Coccolithophores in the Southern Indian Ocean: Ecology, Biogeography and Paleoceanographic Interpretations [APC12, Station Biologique de Roscoff, 19 May-8 June, 2019].
4. **Patil, S.M.**, et al. Biogeographic distribution of extant Coccolithophores in the Indian Sector of the Southern Ocean [3rd PAGES YSM and 5th OSM, 7-13 May, 2017].
5. **Patil, S.M.**, et al. Changes in coccolithophore abundance in the Southern Atlantic during the Late Quaternary and its paleoclimatic significance [ISAES, 13-17 July, 2015].
6. **Patil, S.M.**, et al. Xenospheres (coccolithophores) from plankton samples of the Southern Indian Ocean [International Nannoplankton Association Meeting (INA-15), 7-14 March, 2015].
7. **Patil, S.M.**, et al. *Petasaria heterolepis* (Prymnesiaceae) from the Southern Indian Ocean [International Nannoplankton Association Meeting (INA-15), 7-14 March, 2015].
8. **Patil, S.M.**, et al. *Emiliania huxleyi* variation and its expanse in Southern Indian Ocean during austral summer of 2009, 2010 and 2012. [SCAR OSC, 25-29 August, 2014].
9. **Patil, S.**, et al. Calcification and variability of coccolithoporid *Emiliania huxleyi* in Southern Indian Ocean during Austral Summer [IPY Conference, 21-27 April, 2012]. (1st Price, Best Poster Award).

ORGANISATION OF NATIONAL-INTERNATIONAL CONFERENCES

2023	Assisted in organizing National Conference on Polar Sciences (NCPS) (at Goa, India)
2019	Assisted in organizing National Conference on Polar Sciences (NCPS) (at Goa, India)
2017	Assisted in organizing National Conference on Polar Sciences (NCPS) (at Goa, India)
2015	Assisted in organizing International symposium on Antarctic Earth Sciences (ISAES) (at Goa, India)
2014	Assisted in organizing 2 nd PAGES YSM and 4 th PAGES OSM (at Goa, India)
>2009	Contributed towards organizing Antarctic project screening and debriefing meetings of NCPOR
>2009	Responsible to assist in organizing various national and international conferences by NCPOR

RESEARCH EXPEDITIONS

2023-24	43rd Indian Antarctic Expedition: Project: <i>Prydz Bay Air-Ice-Sea Exchange (PRAISE) program;</i> Study region: Bharati Research station, Antarctica/Quilty Bay (3 months)
2021-22	41st Indian Antarctic Expedition: Project: <i>Prydz Bay Air-Ice-Sea Exchange (PRAISE) program;</i> Study region: Bharati Research station, Antarctica/Quilty Bay (3 months)
2019	Mission MD218 CROTALE: Project: <i>Paleo-oceanography and paleo-climatology of the western Indian sector of the Southern Ocean;</i> Study region: Western Indian Sector of the Southern Ocean (3 weeks)

- 2018-19 **10th Indian Southern Ocean Expedition:** Project: *Coccolithophore ecology and biogeography*; Study region: Indian sector of the Southern Ocean (2 months)
- 2016-17 **36th Indian Antarctic Expedition:** Project: *Coccolithophore ecology and biogeography, Antarctic lake program*; Study region: Bharati Research station, Antarctica (4 months)
- 2011-12 **31st Indian Antarctic Expedition:** Project: *Ecology of the coastal Antarctica and Antarctic lakes*; Study region: Bharati and Maitri Research stations Antarctica (3 months)
- 2010 **4th Indian Southern Ocean Expedition:** Project: *Coccolithophore ecology and biogeography*; Study region: Indian sector of the Southern Ocean (2 months)
- 2009 **3rd Indian Southern Ocean Expedition:** Project: *Biogeochemistry and Hydrodynamics of the Indian sector of the Southern Ocean*; Study region: Indian sector of the Southern Ocean (2 months)
- 2008-09 **4 Tropical Indian Ocean Expeditions:** Project: *Biogeochemistry and hydrodynamics of the Tropical Indian Ocean*; Study region: Tropical Indian Ocean (~45 days each expedition)

SUPERVISION AND MENTORING ACTIVITIES (PhD and Master Students)

PhD students

- >2018 Miss. Pallavi Choudhri under DST-INSPIRE funded Project (NCPOR, co-responsible Dr. Rahul Mohan) (Supervision: 50%); PhD thesis title: *Late quaternary Southern Indian Ocean ecology and palaeoceanography (Thesis awarded- Marine Science, Goa University)*

Masters students

- 2023 Ms. Arya Jawade (D.Y. Patil Biotechnology and Bioinformatics institute; Supervision: 100%); Project: *Influence of temperature on morphologies and growth of Coccolithus pelagicus subsp. braarudii*
- 2020 Mr. Anandu SV (CUSAT, Kerala; Supervision: 70%); Project: *Evaluating applicability of Coccolithus pelagicus subsp. Braarudii coccolith morphometry to deciphering climatic changes*
- 2020 Miss. Thushara TP (CUSAT, Kerala; Supervision: 70%); Project: *Coccolithus pelagicus subsp. Braarudii morphometry variation and its relation to sea surface temperature*
- 2016 Miss. Debosmita Roy (Indian School of Mines; IIT Dhanbad, India, supervision: 70%); Project: *Determination of past climate variability using morphological changes of Coccolithus pelagicus from the Southern Ocean*
- 2013 Miss. Shijina C. (CUSAT; Kerala, Supervision: 70%) Project: *Southern Indian Ocean plankton community structure during Austral summer of 2009, 2010, and 2012*
- 2013 Mr. Ajit Singh (Dept. Of Earth Science, Goa University; Supervision: 70%); Project: *Coccolithophores from water and surface sediments of Indian Ocean*

TEACHING AND DISSEMINATION OF KNOWLEDGE

- 2023 Invited public talk during “Vidnyan dhara”, a mega science series program to celebrate National Science Day
- 2022 Gave research seminar at IDP in climate studies, IIT Bombay on 21st September 2022
- 2021 **Chair ‘Ask a Scientist’ on the occasion of Science Festival** (organized by NCPOR, Goa Science Centre); 1-hour lecture, 1-hour interaction with students and researchers
- >2015 **Lectures to Marine Biology Masters class, Karnataka University** (3-hour class on introduction to advancement in marine instrumentation and various other topics every 6 months)
- >2015 Training programs for master students (statistics, instrumentation, analytic techniques)
- >2012 Lectures in the schools and colleges (about MoES scientific projects and career opportunities; NCPOR scientific activities in Polar Regions, Oceans, and Himalaya)
- >2012 Lectures to visiting students from various colleges and universities at NCPOR on various topics related to Polar Regions

MAIN NATIONAL-INTERNATIONAL COLLABORATIONS

- Dr. Xavier Crosta, University of Bordeaux, France [*southern ocean paleoceanography, diatoms*]
- Dr. Ian Probert, Station Biologique de Roscoff, France [*coccolithophore laboratory experiments*]
- Dr. Elisabeth Michel, LSCE, Paris, France [*Mg/Ca; Boron isotopes*]
- Dr. Syed Jafar, dept Dir. (retired) BSIP, India [*coccolithophore ecology, nannofossil biostratigraphy*]
- Dr. Rahul Mohan, NCPOR, India [*coccolithophore/diatom ecology, paleoceanography, facility development*]
- Dr. Suhas Shetye, NIO, India [*carbon chemistry*]
- Dr. Jenson George, NCPOR, India [*PRAISE program*]
- Dr. Manu Prakash, Stanford University, USA [*Instrument development for plankton studies*]
- Dr. K.-H. Baumann, Bremen University, Germany [*coccolithophores, nannofossils*]
- Dr. Andrés Rigual-Hernández, University of Salamanca, Spain [*sediment trap studies*]
- Dr. Richard W. Jordan, Yamagata University, Japan [*coccolithophore ecology*]
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EXTRACURRICULAR EXPERIENCE

Training: Obtained training on Nannofossil Biostratigraphy between 2011-2015 at NCPOR

Administrative responsibilities

- 2009-23 **Responsible for laboratory facilities in Polar Micropaleontology and Past Climate project** (electron microscopes, light microscopes and other instrumental facilities)
- >2019 **Responsible to contribute towards building scientific priority areas between France and India in the field of Marine Science (IFCPAR/CEFIPRA)**

Memberships

- > 2015 **Member** Association of Polar Early Career Scientists (APECS)
- > 2014 **Member** International Nannoplankton Association (INA)

Review of projects and research articles

- > 2014 **Reviewer** of ~5 national projects (Indian Antarctic Expedition proposals, PACER)
- > 2014 **Reviewer** of ~8 scientific articles (*Mar Micro*, *QSR*, *PPP*, *JGSI*, *Front. Mar. Sci.*, and *Current Science*)

COMPUTATIONAL SKILLS

Programming Languages (basic knowledge): MATLAB and R.

Data analysis and plotting tools: Sigmaplot, Surfer, Grapher, and ODV.

Instruments: Light and Electron Microscopes, Flow cytometer, Spectrophotometer, Coulometer, Autoanalyzer, PCR, XBT, CTD, MPN, AWS, TOC Analyser, and Fluoroprobe

OTHER ITEMS OF INTEREST

Outreach through media: Popular articles in magazines (GnY; Brainfeed magazine, Science reporter), Facebook page (Research, Education and Outreach Working Group; PRAISE), Twitter (@NannoLab, @PRAISE_NCPOR), Instagram nannolab; praise_observatory).

Experience- development of R&D Programme

- >2023 **Polar Micropaleontology and Past Climate Programme** (Studies on climatic changes, ecosystem structure in the Southern Indian Ocean using nanno- and microplankton assemblages, fossilizable plankton, and geochemical proxies.)
- >2021 **PRAISE Programme** (Developing Antarctic coastal observatory to study Atmosphere-Ice-Sea exchange)
- 2021-23 **SERB-SRS Programme** (Studies on late quaternary climate variation from Southern Indian Ocean using fossilizable plankton and geochemical proxies.)
- 2016-21 **DST-INSPIRE Programme** (Studies on extant coccolithophores and fossil coccoliths: coccolithophore ecology, biogeography, paleoceanographic implications; developing coccolith size based proxies)
- >2018 **Polar Micropaleontology and Past Climate- project development** (Coccolithophore ecology, biogeography, paleoceanography, and paleoproductivity using siliceous (diatoms, silicoflagellates) and calcareous nannoplankton proxies)
- 2008-18 **Past climate and oceanic variability- project development** (Coccolithophore and diatoms ecology and biogeography, phytoplankton response to melting and stratification, phytoplankton and heterotrophs community and their response to predicted future climatic variations)
- >2009 **Antarctic Science/Conferences** (Associated with the Organizing Antarctic Science meetings and conferences/meetings (PAGES, ISAES, PACT, OCTEL, Microplastics, NCPS)

LANGUAGES READ AND WRITE

English (Excellent); Hindi+3 Indian regional languages (Excellent)

REFEREES

- **Dr. Rahul Mohan, Scientist F and Director (Antarctic Science), NCPOR, Goa, India-403804;**
Tel: +91-832-2525531; email: rahulmohan@ncpor.res.in, rahulmohangupta@gmail.com
- **Dr. M. Ravichandran, Secretary, Ministry of Earth Science, Govt. of India.** Email: secretary@moes.gov.in
- **Dr. Xavier Crosta, Directeur de Recherche 2^{ème} Classe au CNRS, Université de Bordeaux, 33615 Pessac Cedex** Tel : 05 40 00 33 18; email: xavier.crosta@u-bordeaux.fr
- **Dr. Ian Probert, Roscoff Culture Collection, Station Biologique de Roscoff, 29680 Roscoff, France** Tel : 33(0)2 98 29 23 34; email: probert@sb-roscoff.fr