

Dr. Bijesh C M

Curriculum Vitae



Scientist-D
National Center for Polar and Ocean Research
Ministry of Earth Science

Goa, India

Mobile No. +91 9962876370

✉ bijeshcm@gmail.com

✉ bijeshcm@ncpor.res.in

<https://scholar.google.com/citations?user=926ulTsAAAAJ&hl=en>

<https://www.researchgate.net/profile/Bijesh-C-M>

Education

November 2017 – **Ph.D. in Marine Science**, Goa University, Goa, India

August 2023 *Title: Morphotectonic architecture and evolution of the postulated microcontinental blocks and deep offshore regions adjacent to the southwestern continental margin of India and its conjugate regions of Madagascar.*

Guide: Dr. Yatheesh Vadakkeyakath, CSIR-National Institute of Oceanography, Goa, India

2010-12 **Master of Science in Marine Geophysics**, Cochin University of Science and Technology, Kerala, India (7.72 CGPA).

2007-10 **Bachelor of Science in Physics**, Calicut University, Kerala, India (88 %).

Research Experience

November 2023 – till date **Scientist D**, National Center for Polar and Ocean Research, Goa, India

February 2023 – **Project Scientist II**, National Center for Polar and Ocean Research,
November 2023 Goa, India

2022-2023 **Project Scientist I**, National Center for Polar and Ocean Research, Goa,
India

2015-2022 **Project Scientist B**, National Center for Polar and Ocean Research,
Goa, India

2013-2015 **Project Scientist B**, National Institute of Ocean Technology, Chennai, India

2012-2013 **Project Assistant II**, CSIR-National Institute of Oceanography, Goa, India

Research Interests

- Marine Geophysics
- Submarine Geomorphology and Geohazards
- Plate Tectonics
- Hydrothermal Sulphide Exploration

Professional Training / Courses

Training on

- Multibeam Echo-sounder (Reson) & PDS: Delivered by Reson at Chennai, Tamil Nadu, India in 2013.
- Marine GIS; Delivered by IIC Technologies, Vizag, India in 2019

Scientific cruise

Spent more than 650 days in the Arabian Sea and Bay of Bengal, through ~20 expeditions since 2011, onboard Research Vessels ORV Sagar Kanya, MGS Sagar, RV Sindhu Sankalp, MV Sagar Manjusha and actively participated in the planning and acquisition of geophysical surveys/data (Multibeam bathymetry, Sub bottom Profiler, Sea-surface Gravity and Magnetic) and served as Chief Scientist to several expeditions.

Selected Details of offshore experience:

- Participated in several shallow water bathymetric surveys in the Eastern Continental Margin of India (Bay of Bengal) onboard CRV Sagar Purvi, CRV Sagar Paschimi and MV Sagar Manjusha for seafloor mapping, identification and interpretation of geomorphological features in Bay of Bengal. (within the period of December 2013 – April 2015)
- Chief scientist onboard RV MGS Sagar for marine geophysical data acquisition under EEZ mapping project in the Arabian Sea with main regard to deep water swath bathymetry. (January - February 2016, July - August 2016)
- Chief scientist onboard ORV Sagar Kanya for seafloor mapping, identification, and interpretation of geomorphological features in the Andaman Offshore region, Bay of Bengal. (April - May 2016, October – November 2017)
- Chief scientist onboard RV MGS Sagar for marine geophysical data acquisition under EEZ mapping project in the Eastern Continental Margin of India (Bay of Bengal) with the main regard to deep water swath bathymetry. (October- November 2016, April- May 2017, February - March 2019, July- August 2019, November- December 2019)
- Participated in the scientific expedition to explore polymetallic nodules (PMN) using an Autonomous Underwater Vehicle (AUV) onboard RV Sagar Nidhi in the Central Indian Basin. (December 2022)
- Participated in the scientific expedition for the hydrothermal exploration program using an Autonomous Underwater Vehicle (AUV) onboard Argeo Searcher in the Central Indian Ridge. (March 2024)
- Team leader in the scientific expedition for the hydrothermal exploration program using an Autonomous Underwater Vehicle (AUV) onboard Argeo Searcher in the Central Indian Ridge. (May-June 2024)

Professional Skills/Expertise

Marine Geophysical Data Acquisition, Processing, Analysis, & Interpretation

- Bathymetry (Caris HIPS and SIPS, PDS, Qimera)
- Sub-bottom Profiles (SonarWiz, Seisee)
- Marine Magnetics (Geosoft Oasis Montaj, Geomodeller)
- Generic Mapping Tool (GMT) • Python • Seismic Unix • Arc GIS

Fellowships/Awards/Recognitions/Membership

- Nominated for Prof. Jagdeo Singh Memorial Grant at Indian Geophysical Union Annual Convention (2012)
- International Travel Grant award by Department of Science and Technology (DST, India) to attend Asia Oceania Geosciences Society (AOGS2024) annual meeting (2024)
- Life-time member of Ocean Society of India (OSI)

Research Projects Involved

Duration	Title	Funding Agency	Status	Role
2015-till date	Geoscientific studies of the Exclusive Economic Zone of India	Ministry of Earth Science, Government of India	Ongoing	Member
2023-till date	Deep Ocean Mission	Ministry of Earth Science, Government of India	Ongoing	Member

Research Publications Peer-reviewed Journals

- 2024
- John Savio, J., Yatheesh, V., **Bijesh, C.M.**, Mahender, K., Aswini, K.K., Badesab, F., Shuhail, M., Sriram, G., Twinkle, D., Kumar, R. Morphotectonics of the Raman-Panikkar-Wadia seamount chain in the Laxmi Basin, Eastern Arabian Sea. *Journal of Asian Earth Sciences* 262, 105977. <https://doi.org/10.1016/j.jseaes.2023.105977>
 - Aswini, K.K., Kamesh Raju, K.A., Bijesh, C.M., V. Yatheesh, N. F. K. Zeba, Pawan Dewangan. Morphotectonic characteristics of the Andaman volcanic arc and its adjoining regions, Andaman Sea. *Geo-Marine Letters* 44, 13. <https://doi.org/10.1007/s00367-024-00775-4>
 - D. Twinkle, **C.M. Bijesh**, S. Susanth, P. John Kurian Unravelling the morphology and probable genesis of multiple slope failures along the Kerala-Konkan Basin, Western continental margin of India (*Under review, Natural Hazards, Submission ID NHAZ-D-24-01138*)
- 2023
- **C. M. Bijesh**, S. Vadakkepuliambatta, J. John Savio, S.Ramesh, N.R.Ramesh, T.R. Anoop, P. Kunnummal, R.Ramesh, P. John Kurian, G.A.Ramadass. Unravelling submarine channel morphology in the lower Bengal Fan through ultra-high-resolution Autonomous Underwater Vehicle (AUV) survey. *Geo-Marine Letters* 43, 20. <https://doi.org/10.1007/s00367-023-00761-2>
- 2022
- **Bijesh C.M.**, Twinkle D., Susanth S., John Kurian P. Large-scale submarine landslide in the Cochin offshore region, southwestern continental margin of India; a preliminary geophysical understanding. *Landslides*. <https://doi.org/10.1007/s10346-022-01969-6>
 - **C.M. Bijesh**, V. Yatheesh, P. John Kurian, J. John Savio, Vasudev Mahale, Abhishek Shet, S. Gautham. Conjugate nature of the Alleppey-Trivandrum Terrace Complex with the Northern Madagascar Ridge in the early opening model of the Arabian Sea: Evaluation based on an integrated geophysical investigation. *Marine Geophysical Research*, 43, 14. <https://doi.org/10.1007/s11001-022-09469-x>
- 2021
- Susanth S., Kurian P.J., **Bijesh C.M.**, Twinkle D., Abhishek Tyagi, Rajan S. Controls on the evolution of submarine canyons in steep continental slopes: geomorphological insights from Palar Basin, southeastern margin of India. *Geo-Marine Letters*, 41:14. <https://doi.org/10.1007/s00367-021-00685-9>
 - Susanth S., John Kurian P., Twinkle D., **Bijesh C. M.**, Abhishek Tyagi, Potential submarine landslide zones off Chennai, Southeast Continental Margin of India. *Regional Studies in Marine Sciences*, 45:101832. <https://doi.org/10.1016/j.rsma.2021.101832>

- **Bijesh, C.M.**, Yatheesh, V., Twinkle, D., Tyagi, A., Kurian, P.J. Sagar Kanya Bathymetric High Complex: An extinct giant submarine volcanic caldera in the Eastern Arabian Sea? *Geomorphology*, 373, 107488. <https://doi.org/10.1016/j.geomorph.2020.107488>
- 2020 • **Bijesh, C.M.** and Kurian, J. P. Morphology of the two unnamed seamounts in the Arabian Basin and their probable tectonic implications. *Current Science*, 118 (7), 1118-1123. [doi:10.18520/cs/v118/i7/1118-1123](https://doi.org/10.18520/cs/v118/i7/1118-1123)
- 2018 • **Bijesh C.M.**, John Kurian P., Yatheesh V., Abhishek Tyagi, Twinkle D. Morphotectonic characteristics, distribution and probable genesis of bathymetric highs off southwest coast of India. *Geomorphology*, 315, 33-44. <https://doi.org/10.1016/j.geomorph.2018.04.015>

Conferences/Seminars

- Twinkle D., **Bijesh C.M.**, Tyagi A., John Kurian, P. Crustal structure and rift architecture of East Antarctic margin through integrated geophysical data analysis. National Conference on Polar Sciences NCPS 2017, 16-17 May 2017.
- **Bijesh C.M.**, Twinkle D., Mahesh N., Susanth S., Tyagi A., John Kurian, P. Qualitative analysis of multibeam bathymetry data: case study from the continental margin off Gujarat, Arabian Sea. 5th National Conference of Ocean Society of India OSICON-17, 28-30 August 2017.
- Susanth S., **Bijesh C.M.**, Twinkle D., Tyagi A., John Kurian P. Morphology and Geohazards along Cauvery-Palar Basin, Southeastern Indian Margin. 5th National Conference of Ocean Society of India OSICON-17, 28-30 August 2017, NCESS, Trivandrum.
- **Bijesh C.M.**, Yatheesh V., Twinkle D., Tyagi A., John Kurian, P. Identification, distribution and geophysical characteristics of bathymetric highs off southwest coast of India. 54th Annual Convention of Indian Geophysical Union (IGU) 2017, CSIR-NGRI, Hyderabad.
- **C.M. Bijesh**, D. Twinkle, N. Mahesh, P. John Kurian, V. Yatheesh. Geophysical Mapping of the Sagar Kanya Seamount, Arabian Sea. SCOR-InterRidge workshop, 14-16 November 2018. CSIR-NIO, Goa,
- John Kurian P., **Bijesh C. M.**, Abhishek Tyagi. Deep sea sinuous channel-levee system in the Upper Indus fan; novel understanding from the high resolution swath bathymetry data. OSICON-2019, 12-14 December 2019, CMLRE, Kochi.
- Susanth S., John Kurian P., Twinkle D., **Bijesh C.M.**, Abhishek Tyagi. First insights to the nature of submarine landslides and outer shelf cracking in North Palar Basin, Eastern Continental Margin of India. International conference on frontiers in Marine Science, Challenges and Prospects, MARICON-2019, 16-20 December 2019, School of Marine Sciences, Cochin University of Science and Technology.
- **C.M. Bijesh**, V. Yatheesh, P. John Kurian, D. Twinkle, A. Tyagi. Morphotectonics of the southwestern continental margin of India and the adjacent deep offshore regions. International Indian Ocean Science Conference (IIOSC-2022), Goa, 14-18 March 2022.
- Priyesh Kunnummal, **Bijesh C.M.**, Sunil Vadakkepuliambatta. Morphological characteristics of Deep-sea sinuous channel-levee system of upper Indus fan: New insights from high-resolution marine geophysical data. Eighth National Conference of Ocean Society of India, OSICON-23, held during Aug 23-25 at INCOIS, Hyderabad, India, 2023.
- **Bijesh C. M.**, Sunil V., John Kurian P. Submarine Geohazard Assessment Along the Indian Continental Margins: Case Studies, Challenges and Future Perspective. MARICON-2024, 08-10

April 2024, School of Marine Sciences, Cochin University of Science and Technology, Kerala

- J. John Savio, S. Susanth, **C. M. Bijesh**, V. Sunil, P. John Kurian. Exploring Submarine Canyon-Channel Systems: New Insights from the Cauvery Basin, Eastern Continental Margin of India. MARICON-2024, 08-10 April 2024, School of Marine Sciences, Cochin University of Science and Technology, Kerala.
- **C.M. Bijesh**, Nisha Nair, P. John Kurian. Exploring the role of ocean drilling experiments in advancing present understanding of submarine slope failures in Indian Ocean regions. Asia Oceania Geosciences Society (AOGS2024, accepted), 23 - 28 June 2024, Pyeongchang, Gangwon-do, South Korea.