Shailesh S. Nair

Post-doc researcher

Phone: (+86) 15621486063 | Email: shail@qibebt.ac.cn, shail.nair05@yahoo.com

SUMMARY

A marine microbiologist with an interest in marine microbial ecology and genomics. Extensive experience in metagenomic and metatranscriptomics exploration of microbial (phytoplankton, bacteria, and viruses) taxa, functions, and interactions.

CORE COMPETENCIES

Single and meta genomics-transcriptomics analysis of microorganisms.

molecular identification of nitrogen-fixing microbes and genes.

Bacteriophage isolation, identification, and genomic characterization.

Phytoplankton, bacteria, and virus collection, isolation, characterization, and culture.

SKILLS

- Bioinformatics analysis of DNA/RNA sequences.
- Flow cytometry, microscopy, Q-PCR, PCR, gel electrophoresis, and other basic microbiological instrumentation and techniques.
- Experience of scientific cruises.
- Skilled in designing, undertaking, analyzing troubleshooting, and interpreting biological assays.
- Basic knowledge of using and troubleshooting R and Linux-based languages (C, Python) for bioinformatics analysis.
- Skilled in writing scientific articles and proposals.

EDUCATION

Ph.D. (Microbiology)- 2017-2021

Research Center for Marine Biology and Carbon Sequestration,

Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences.

Thesis- "Decoding the mechanisms driving dynamic changes in the relationship between marine *Synechococcus* PCC-7002 and heterotrophic bacterial community during long-term coexistence"

Master's (Marine biology)- 2011 – 2013

Karnataka University, Dharwad- India.

Bachelor's (Zoology)- 2008 – 2011

Goa University, Goa - India.

WORK EXPERIENCE

1. **Post-doctoral researcher 2022 – present**

   Research Center for Marine Biology and Carbon Sequestration,

   Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences

2. **Research assistant: 2013- March 2017**

   Department of Biological Oceanography, National Institute of Oceanography (NIO) Goa-India.

PROJECTS (as principal investigator)

1. **Ministry of Science and Technology, China project, 2022-2023:** Role of *Synechococcus*-heterotrophic bacteria interactions in heterotrophic bacterial nitrogen fixation.
2. **Qingdao post-doctoral project, 2022-2023:** Development of efficient phage cocktails in treating Kelp-associated microbial disease.

PUBLICATIONS

1. **Nair S**, Zhang Z, Li H, Zhao H, Shen H, Kao S-J, Jiao N, Zhang Y. Inherent tendency of *Synechococcus* and heterotrophic bacteria for mutualism on long-term coexistence despite environmental interference. ***Science Advances,*** 2022. 8 (in press), eabf4792.

2. **Nair S**, Li C, Mou S, Zhang Z, Zhang Y. A novel phage indirectly regulates diatom growth by infecting diatom-associated biofilm-forming bacterium. ***Applied and Environmental. Microbiology***. 2022. Doi:10.1128/AEM.02138-21.

3. Zhang Z, **Nair S (co-first author),** Tang L, Zhao H, Hu Z, Chen M, Zhang Y, Kao S-J, Jiao N, Zhang Y. Long-term survival of *Synechococcus* and heterotrophic bacteria without external nutrient supply after changes in their relationship from antagonism to mutualism. ***mBio***. 2021. Doi: 10.1128/mBio.01614-21.
4. Mou S, Zhang Z, Zhao H, **Nair S**, Li Y, Xu K, et al. A dark-tolerant diatom (*Chaetoceros*) cultured from the deep sea. ***Journal of Phycology***. 2022. Doi:10.1111/jpy.13240

5. Zhao H, Zhang Z, **Nair S**, Zhao J, Mou S, Xu K, Zhang Y. Vertically Exported Phytoplankton (<

20 µm) and Their Correlation Network with Bacterioplankton Along a Deep-sea Seamount. ***Frontiers in Marine Science***. 2022. Doi:10.3389/fmars.2022.862494

6. Zhang Z, Zhao H, Mou S, **Nair S**, Zhao J, Jiao N, Zhang Y. Phage Infection Benefits Marine diatom *Phaeodactylum tricornutum* by regulating the associated bacterial community. ***Microbial. Ecology*** 2022. Doi:10.1007/s00248-022-02045-1.

Awards and fellowships

1. Overseas youth talent award, 2022 by Ministry of Science and Technology, China.
2. Excellent incoming post-doctoral researcher award, 2022 by Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences.
3. Excellent Ph.D. graduate (overseas student), 2021 by University of Chinese Academy of Sciences.
4. University of Chinese Academy of Sciences Ph.D. fellowship 2017-2020.

CONTACT

Shailesh Nair

Research Center for Marine Biology and Carbon Sequestration,

Room no. 517, biology building,

Qingdao Institute of Bioenergy and Bioprocess Technology Chinese Academy of Sciences,

Laoshan, Qingdao-China, 266100

shail@qibebt.ac.cn twitter.com/NairShail