

**Name: Dr. Lata Gawade**



**Designation: Assistant Professor**

**Area of Research Interest:** Marine microbiology, Microbial carbon pump & Climate change impact, Biogeochemistry, Microbial Ecology, and Skill Development & Science outreach- science for society.

Dr. Lata Gawade

Assistant Professor

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**Awards to Dr. Lata Gawade:**

2020	Dr. Gawade has been selected as an Assistant Professor (Microbiology) at Goa University
2020	Dr. Gawade has been selected and received early career scientists travel grants by American Geophysical Union to participate and present research work at Ocean Sciences Meeting-2020 in San Diego-California, USA
2018	Dr. Gawade has been awarded with the research fellowship at Hanse-WissenschaftsKolleg, Delmenhorst, Germany.
2018	Honoured with 'Pradnyawant Puraskar' – by Adarsh yuva sangh and Shree Balram shikshan-sanstha- Goa in collaboration with Dept. of Art and Culture, Govt. of Goa- India.
2018	Received early career travel grants from Estuarine and coastal sciences association (ECSA) to participate and present research work at ECSA -57 conference in Perth, Australia.
2015	Received young researcher travel grants from International Society for Environmental Biogeochemistry (ISEB) to present the research work at ISEB-22 conference in Piran, Slovenia.
2016	Dr. Gawade has been selected as an Indian Ambassador for ZMT & ISATEC alumni network at Leibniz-Centre for tropical marine research-Bremen, Germany.
2016	Dr. Gawade has been nominated as Radiological Safety Officer (RSO) and licensee for purchase and use of radioactive sources for research purpose- by Atomic Energy Regulatory Board (AERB)- Govt. of India
2009	Dr. Gawade has been awarded with NAM S&T-ZMT fellowship from Leibniz Centre for Tropical Marine Research (ZMT) -Bremen, Germany.
2005	Selected as Technical Assistant at CSIR-National Institute of Oceanography (NIO)

**Postgraduate/ Graduate student guidance**

Year	Name of student	Degree	Thesis title	Completed/ current / submitted
2019	Mr. Ajay Dalvi Mr. Anish Silimkhan	Two 3 <sup>rd</sup> year B.Sc. students	Comparative study of bivalves: Mussels, oysters and clams from Goa region; emphasis on green mussels ( <i>Perna viridis</i> )	completed
2016	Ms. Nunes Renella Henriqueta Ms. Jubina Fernandes	Two 2 <sup>nd</sup> year M.Sc. students	Effect of temperature variations on primary productivity and bacterial productivity of coastal and estuarine waters"	completed
2014	Ms. Chaitali Madkaikar	2 <sup>nd</sup> year M.Sc. student	Effect of temperature rise on bacterial metabolic rates from tropical estuary- Mandovi	completed
2012	Ms. Nandini P.	2 <sup>nd</sup> year M.Sc. student	Effect of nutrient and salinity variation on bacterial activities in Godavari estuary	completed
2012	Ms. Purnima L. Ms. Uma Keerthi	Two 2 <sup>nd</sup> year M.Sc. students	Estimation of cell volume to cell carbon conversion factors for a bacterioplanktons from coastal waters.	completed
2011	Ms. Sirisha B. Ms. Saranya K.R.L Mr. Janakipathi	Three 2 <sup>nd</sup> year M.Sc. students	Bacterial activity on size fractionated dissolved organic carbon; with respect to carbohydrates, amino acids and proteins in Godavari estuary.	completed
2010	K. Yogeswar Dayal	2nd year M.Sc. Student	Effect of river discharge on bacterial carbon demand, respiration and growth efficiency in Godavari estuary- East coast of India.	completed

**Major projects worked for (Team member)**

Project Title	Funding source	Funding amount	Project duration (years)	Status of project
Physical, biogeochemical dynamics of estuarine and coastal ecosystems along the East coast of India- Supra Institutional Project (SIP)	Council of Scientific and Industrial Research (CSIR)- India	INR 1300 Lakhs	5	Completed
Monitoring coastal water quality along the coast	Ministry of Earth	INR 90	5	Completed

of Andhra Pradesh from Kalingapatnam to Krishnapatnam including seasonal hotspot areas, under Coastal Ocean Monitoring and Prediction Systems (COMAPS).	Sciences (MoES)- India	Lakhs		
Biogeochemical response of the coastal waters off Visakhapatnam to extreme climatic events and human interface.	Department of Science and Technology (DST)- India	INR 37.56 Lakhs	3	Completed
Characteristics of different pigments in the coastal regions and validation of OCM-II geophysical products over Eastern costal region	Space application centre (SAC)-India	INR 48 Lakhs	4	Completed
Analysis and harnessing of marine biodiversity for bioremediation of aquaculture and other effluents.	Council of Scientific and Industrial Research (CSIR)- India	INR 90 Lakhs	5	Completed
Worked as a team member for 15 industry sponsored projects for Environmental Impact assessment studies, particularly for biological studies.	Divi's Laboratories Ltd- Vishakhapatnam. Lantech Pharmaceuticals Ltd- Hyderabad. Hetero Drugs Ltd- Hyderabad. National Thermal Power Corporation- Vishakhapatnam. Andhra Orgnics- Pydibimavaram, Andhra Pradesh.			Completed

## **Publications**

### ***(i) Publications in peer reviewed journals***

8. **Lata Gawade**, Krishna M.S., Sarma V.V. S.S, Hemalatha K.P.J., Rao Y.V. (2018). Spatio temporal variability in the sources of particulate organic carbon and nitrogen in a tropical Godavari estuary. *Estuar.Coast. Shelf Sci.* 215, 20-29.
7. **Lata Gawade**, Sarma V.V.S.S., Rao Y.V., Hemalatha K.P.J. (2017). Variation of bacterial metabolites and organic matter in the monsoon-affected tropical estuary (Godavari,India). *Geomicrobiol.J.* 34(7) 628-640.

6. Krishna M.S., Naidu S.A., Subbaiah Ch.V., **Gawade L.**, Sarma V.V.S.S., Reddy N.P.C. (2015). Sources, distribution and preservation of organic matter in a tropical estuary (Godavari, India). *Estuar.Coast.* : 38(3) 1032-1047.
5. **Lata Gawade**, Harikrishna Chari N.V., Sarma V.V., Ingole B.S. (2013). Variations in heavy metal concentration in the edible oyster *Crassostrea madrasensis*, clam *Polymesoda erosa* and grey mullet *Liza aurata* from coastline of India. *Indian J. Sci.* 2(4) 59-63.
4. Sarma V. V. S. S., Krishna M. S., Rao V. D., Vishwanadham R., Kumar N. A., Kumari T. R., **Gawade L.**, Ghatkar S., Tari A. (2012). Sources and sinks of CO<sub>2</sub> in the west coast of Bay of Bengal. *TellusB*, 64, 10961.
3. Sarma V. V. S. S., Arya J., Subbaiah Ch. V., Naidu S. A., **Gawade L.**, Praveen Kumar P., Reddy N. P. C. (2012). Stable isotopes of carbon and nitrogen in suspended matter and sediments from the Godavari estuary. *J. Oceanogr.* 68:307-319.
2. Sarma V. V. S. S., Kumar N. A., Prasad V. R., Venkataramana V., Appalanaidu S., Sridevi B., Kumar B. S. K., Bharati M. D., Subbaiah Ch. V., Acharyya T., Rao G. D., Viswanadham R., **Gawade L.**, Manjary D. T., Kumar P. P., Rajeev K., Reddy N. P. C., Sarma V. V., Kumar M. D., Sadhuram Y., T. Murty V. R. (2011). High CO<sub>2</sub> emissions from the tropical Godavari estuary (India) associated with monsoon river discharges. *Geophys. Res. Lett.*, Vol. 38, L08601.
1. **Lata Gawade.**, Barbuddhe S. B., Bhosle S.N. (2010). Isolation and confirmation of *Listeria* species from seafood off Goa region by polymerase chain reaction. *Indian J. Microbiol.* 50(4):385-389.

***(ii) Book/ monographs/ chapters***

1. **Lata Gawade.** Studies on occurrence of *Listeria* and *Aeromonas* in fishes from Goa. LAP LAMBERT Academic Publishing- Germany. ISBN: 9783659103599, 3659103594

**Conferences/ Presentations/ Invited talks**

22. **Lata Gawade.** Invited judge to evaluate student presentations during Ocean Sciences meeting-2020 at San Diego-California, USA. February 16-21, 2020.
21. **Lata Gawade.** 'Microbial carbon pump; sink for atmospheric carbon: future prospects from Indian Ocean context', at International Indian Ocean Science Conference, Goa India. (Supposed to hold during March 16-20, 2020; postponed).
20. **Lata Gawade**, Suraksha Pednekar. 'Rainfall pattern drives green *Noctiluca scintillans* bloom in tropical estuary (Mandovi) India', at Ocean sciences meeting-2020, San Diego- California, USA. February 16-21, 2020.
19. **Lata Gawade**, Chaitali Madkaikar. 'Effect of temperature rise on bacterial metabolic rates: an experimental approach', at National Seminar on Climate Change and Coastal Ocean Processes (CCCOP-2019), IIT Delhi, India. July 3-4, 2019.

- 18. Lata Gawade.** Invited judge for state level exhibition of 'Research based projects' organised by Dept. of Microbiology- P.E.S. R.S.N. College of Arts and Science-Farmagudi-Ponda in collaboration with Dept. Of Science and Technology, Govt. of Goa. March 9, 2019.
- 17. Lata Gawade.** 'Mussel culture- an alternative source of income for rural communities', invited lecture at Public biodiversity record (PBR) publishing program organised by Poinguinim Biodiversity management group in collaboration with Goa state biodiversity board-at Poinguinim- Canacona. January 22, 2019.
- 16. Lata Gawade.** Invited lecture on 'Understanding carbon cycle-Microbes to human' at P.E.S. R.S.N. College of Arts and Science- Farmagudi, Ponda Goa. December 12, 2018.
- 15. Lata Gawade.** 'Contribution of Indian women in Science'. Invited talk at 'Women in Science' conference by Hanse-WissenschaftsKolleg-Delmenhorst, Germany. November 22, 2018.
- 14. Lata Gawade, Pednekar S., Sreepada R.A. (2018).** 'Impact of monsoon variability on *Noctiluca scintillans* bloom: A case study in tropical estuary' at Estuarine Coastal Science Association (ECSA) - 57 conference, Perth, Australia. September 3-6, 2018.
- 13. Lata Gawade.** 'Microbial diversity and mineralisation: Implications to carbon cycle in tropical region', invited talk at ISATEC/ZMT regional alumni conference, Southeast Asia and beyond in Bandung, Indonesia. April 23 – 27, 2018.
- 12. Lata Gawade.** 'Understanding organic carbon in estuaries and Ocean: Microbial mineralization, diversity and response to changing climatic scenario', invited talk at Indo-German Workshop on Marine Sciences and Coastal Sustainability, Bremen, Germany. March 21, 2018.
- 11. Lata Gawade.** 'Understanding organic carbon in estuaries and Ocean: Microbes to Human impact', invited lecture at Hanse-WissenschaftsKolleg (HWK)-Fellow lecture series at HWK, Delmenhorst-Germany. July 4, 2018.
- 10. Lata Gawade.** 'Career guidance in science and Oceanography in particular' invited lecture at Shree Navdurga Vidhyalaya School on the occasion of National Science Day- 2017- Madkai- Goa, India. February 28, 2017.
- 9. Lata Gawade, Sarma V.V.S.S.** 'Sources and fluxes of particulate organic matter from (Tropical) Godavari estuary to Bay of Bengal', at ECSA-56. Bremen-Germany. September 4-7, 2016.
- 8. Lata Gawade, Sarma V.V.S.S.** 'Impact of river discharge on bacterial respiration and CO<sub>2</sub> flux in the coastal Bay of Bengal', at International symposium on the Indian Ocean, Goa-India. November 30 - December 4, 2015.
- 7. Lata Gawade, Sarma V.V.S.S.** 'Enhanced bacterial activities by monsoon river discharge makes the tropical Godavari estuary net heterotrophic and a source of CO<sub>2</sub> to atmosphere', at International Society for Environmental Biogeochemistry (ISEB)-22 conference in Piran, Slovenia. September 27 - October 2, 2015.
- 6. Krishna M.S., Gawade L., Naidu S.A., Sarma V.V.S.S., Reddy N.P.C.** 'Sources and distribution of particulate organic matter in the western coastal Bay of Bengal during South West Monsoon: Influence of river

discharge', at National conference of Ocean society of India (OSICON)-2015, CSIR-National Institute of Oceanography-Goa, India. March 22-24, 2015.

5. **Lata Gawade**, Sarma V.V.S.S. 'Influence of river discharge on Bacterial production and respiration in Godavari estuary, East coast of India', at OSICON- 2013, IITM-Pune, India. 26-28 November, 2013.

4. **Lata Gawade.**, Sarma, V.V.S.S. 'Sources of particulate organic carbon and nitrogen in the Gautami Godavary Estuary', at OSICON- 2011, National Institute of Ocean Technology-Chennai, India. July 13-15, 2011.

3. Krishna M.S., Sarma V.V.S.S., **Gawade L.**, Naidu S.A., Subbaiah Ch.V., Praveen kumar P. 'Source and fate of terrestrial organic carbon in sediments along the east coast of India', at OSICON – 2011, National Institute of Ocean Technology-Chennai, India. July 13-15, 2011.

2. Manjary D.T., Prasad V.R., **Gawade L.**, Sarma V.V.S.S. 'Bacterial Abundance in Godavari Estuary: Influence of River Discharge on Bacterial Metabolism', at OSICON – 2011, National Institute of Ocean Technology-Chennai, India. July 13-15, 2011.

1. **Lata Gawade**, Sarma V.V.S.S., Dayal K.Y. 'Seasonal variability in bacterial production, respiration and growth efficiency in tropical Godavari Estuary- East Coast of India', at International workshop on Biodiversity and climate change, IIT- Kharagpur, India. November 29 – December 10, 2010.

### **Workshops conducted/coordinated**

3. Conducted cleanliness drive at Madkai village –Zuari estuarine stretch and awareness program about ocean plastic pollution, on the occasion of international coastal cleanup day-2019 in association with the Madkai gram panchayat and National Centre for coastal research (Ministry of Earth Sciences). September 21, 2019.

2. Conducted a workshop on "How to enhance innovative agrarian and marine food production techniques-towards sustainable development with respect to changing climatic patterns" in collaboration with CSIR-NIO-Goa, Goa University and Leibniz– Centre for tropical Marine Research (ZMT)- Germany at Goa University-Goa, India. May 27, 2019.

1. Conducted a workshop on 'Interactive Workshop on Skill Development in Aquaculture' at CSIR-National Institute of Oceanography-Goa, India. February 21-22, 2018.

### **Workshop/ training program attended**

7. Science Leadership Workshop for early career faculties and scientists, supported by all three science academies in India and INYAS. June 22-28, 2020. (Online workshop).

6. Training program on 'Creativity and innovation for rural societies'. CSIR-HRDC, New Delhi. December 4-6, 2017.

5. Workshop on 'The Art of Public Speaking and Technical Writing Workshop CSIR-HRDC, Delhi. April 11-13, 2016.

4. Workshop on 'Quantitative Research, Techniques & Data Analysis using 'R' Software methods', Trivendrum-Kerala. October 17- 19, 2014.

3. Training course in radiological safety aspects in the research application of ionizing radiation conducted by Radiological physics and advisory division, BARC-Mumbai in collaboration with Indian association for radiation protection. April 25–May 3, 2011.

2. The training course on 'Biological Oceanography in the framework of Earth System Science' organized jointly by the National Institute of Oceanography (Goa, India) and Alfred Wegner Institute for Polar and Marine Research (AWI, Germany) at CSIR-National Institute of Oceanography-Goa, India. January 14-25, 2008

1. Participated in the National seminar on 'Global Temperature Rise: An Indian effort towards mitigation of carbon dioxide Emissions' at Andhra University, Visakhapatnam- India. September 21-22, 2007.

### **Research Experience**

Dr. Gawade has worked in the field of marine microbiology and biogeochemistry thus connecting both the areas to understand the microbially mediated biogeochemical processes. She has participated in ocean cruises and has sailed on several ocean research vessels having 100+ days of sailing in Northern Indian Ocean and 300+ days sailing in coastal waters and estuaries. She has worked as a team member for several R&D projects funded by Council of Scientific and Industrial Research (CSIR)-India, Ministry of Earth Sciences (MoES)-India, Space Application Centre (SAC)-India and some were industry sponsored projects for the Environmental Impact Assessment (EIA) studies. She has worked in India as well as Germany and has achieved international accolades thus establishing a good reputation at international level. She has worked with the state-of-the-art facilities within her research line in India and abroad. She is an active member of some of the international scientific bodies as well as an Indian Ambassador to German research institute, Leibniz-ZMT & ISATEC alumni network program. She has good publications to her credit in peer reviewed journals with overall citations of 209. She has published one monograph and presented her research work as presentations/ invited talks in 21 conferences/programs. Her h-index is 6, i10-index is 6 (according to Google scholar) and API score is 200+.

### **Membership of national/ International professional bodies**

- American Geophysical Union
- Association of Microbiologists of India
- International society for environmental biogeochemistry
- Estuarine and coastal sciences association
- Indian science congress association

**Academics / research experience / Position**

<b>Dates</b>	<b>Position</b>	<b>Affiliation</b>
2018	Hanse-WissenschaftsKolleg (HWK) Fellow	Hanse-WissenschaftsKolleg/ Leibniz- Centre for Tropical Marine Research- Germany
2009	NAM S&T ZMT Fellow	Leibniz- centre for tropical Marine Research- Bremen, Germany
2015	Ph.D. (Microbiology)	Andhra-University- Andhra Pradesh, India
2005	M.Sc. (Microbiology)	Goa University- Goa, India
2003	B.Sc. (Microbiology + Chemistry)	P.E.S.'s R.S.N. higher secondary school, Ponda- Goa. Goa University- Goa, India
2000	H.S.S.C.	P.E.S.'s R.S.N. College of Arts and Science, Ponda- Goa. Goa Board- Goa, India
1998	S.S.C.E.	Shree Navdurga Vidhyalaya school- Madkai Ponda- Goa. Goa Board-Goa, India
July 2020	Assistant Professor	Goa University – Goa, India
October 2015	Senior Technical Officer	CSIR- National Institute of Oceanography-Goa, India
July 2012	Technical Officer	CSIR- National Institute of Oceanography-Goa, India
July 2005	Technical Assistant	CSIR- National Institute of Oceanography- RCW, Andhra-Pradesh, India



### **Research in news**

Dr. Gawade's research about the occurrence of *Listeria monocytogens* in fishes, and her group work on green mussel (*Perna viridis*) farming under the integrated skill initiative of the Council of Scientific and Industrial Research (CSIR) and skill India mission program received media release. News highlight of the research work is partly because the work has direct relevance for the communities.

Her research on *Listeria* occurrence and subsequent press article '*Listeria* occurrence more in shell fish than in fin fish' published in local newspaper, received a journalism award to the editor of Gomantak times in category 'public health and hygiene' on national press day.

<http://epaper.gomantaktimes.com/GomantakTimes/7Sep2016/Enlarge/page3.htm>

<http://www.goanreporter.com/goa-state-journalists-awards-declared/>

**'NIO to introduce new technique to increase mussel production'**

<https://www.heraldgoa.in/Goa/NIO-to-introduce-new-technique-to-increase-mussel-production/131982>

**'NIO scientist selected as ambassador of Germany based institute'**

[https://www.google.com/amp/s/m.timesofindia.com/city/goa/NIO-scientist-selected-as-ambassador-of-Germany-based-institute/amp\\_articleshow/52780470.cms](https://www.google.com/amp/s/m.timesofindia.com/city/goa/NIO-scientist-selected-as-ambassador-of-Germany-based-institute/amp_articleshow/52780470.cms)