



Vlaams Instituut voor de Zee vzw
Flanders Marine Institute

VACANCY

Researcher bacteria in sea air

SITUATION

For 20 years, the Flanders Marine Institute (VLIZ) has been strengthening the accumulation of marine knowledge and the excellence of marine scientific research in Flanders. VLIZ is a coordination and information platform, a focal point for marine and coastal research, which also serves as an international contact point for marine science. Important activities are national and international networking, information and data management, scientific communication for policy and industry, education and the general public, and logistical support of marine research. Since 2017, the institute also initiates, promotes and executes innovative and multidisciplinary marine research, and this at the service of, in collaboration with or complementary to Flemish and international marine research groups.

To strengthen its research capacity, VLIZ is hiring 14 new colleagues in its Research Department. Join our multidisciplinary team in Oostende at the Belgian coast and be part of a new wave of marine research in Flanders. You will work in a unique institute in which your science will be supported by state-of-the-art data systems and services, research infrastructure, science communication and an extensive marine library. Moreover, VLIZ is part of a wide network of Belgian and international marine research groups, offering many opportunities for scientific collaboration.

In addition to these open positions, VLIZ sets up a recruitment reserve for potential temporary jobs. Opportunities may arise for the following profiles: ecological modeler, environmental data analyst/modeler with experience in R, marine biologist/taxonomist, molecular ecologist, marine geologist. Candidates with such a profile are encouraged to make a spontaneous application.

For each function, VLIZ considers enthusiastic involvement, open servitude, excellent professionalism and integrity as important characteristics.

RESEARCHER BACTERIA IN SEA AIR

Epidemiological research has shown that the health of coastal residents is generally better than the health of people living inland. This coastal health effect has been attributed to psychological mechanisms (e.g. reduction of stress, improved social interactions) and physiological mechanisms (more exercise, higher vitamin D production, exposure to biogenic substances). To date, no research has looked at the inhalation of marine bacteria and their bacterial endotoxins as a potential cause of immunostimulation which, conform the hygiene hypothesis, could contribute to the health benefits of blue spaces.

In the coming years, the Flanders Marine Institute (VLIZ) will set up a project to answer the following research questions: (1) Which common and unique bacteria can be found in the air at the Belgian coast, and what is the spatiotemporal variability in their presence? (2) Which biotic and abiotic factors in both the sea and the air have an influence on aerosolized bacteria? (3) To what extent does the exposure to these bacteria or the biogenic molecules they produce (bacterial endotoxins, bacterial polysaccharides) affect human health?

This project will be performed in collaboration with Flemish university research groups. Genetic techniques (metabarcoding, metagenome skimming) will be used to determine and compare the bacterial diversity in all relevant matrices (air, water column, sea surface microlayer). Samples will be taken from the coast as well as the from the coastal research vessel Simon Stevin. In addition, automated image recognition will be used to identify and count phytoplankton using the FlowCam imaging flow cytometer. Immunostimulation will be measured physiologically and genetically (gene expression) by exposing human cell lines.

To develop this project, VLIZ hires a researcher in the Research Department.

MAIN RESPONSIBILITIES

- To plan and perform a research project on bacteria in marine air. This involves the planning and performance of sampling and observation campaigns at sea, sample and data processing, data analysis and modelling;
- To discuss planning and report progress to the head of the research unit and external partners;
- To write high quality research manuscripts for submitting to peer-reviewed scientific journals;
- To supervise BSc and MSc students for job student, internship or thesis work;
- To collaborate with colleagues at VLIZ to increase interdisciplinarity in various research projects;
- To possibly contribute to research and innovation projects in collaboration with partners from the Blue Economy;
- To present research at national and international conferences;
- To network at national and international level with other (marine) scientists;
- To go on board of the RV Simon Stevin on a regular basis;
- To contribute to events organized by the Department or the Institute, such as the VLIZ Marine Science Day.



PROFILE

- MSc in Exact Sciences, e.g. biology, marine biology, microbiology, or Applied Sciences (bioscience engineering), with an interest in genetics and microbiology;
- Knowledge of microbial ecology and experience with microbial or genetic research are a plus;
- Critical and creative;
- Scientifically integer;
- Open minded and taking initiative;
- Passionate scientist, willing to learn new skills and develop excellent research;
- Strong interpersonal skills, a motivated team player;
- Willing to work in an international context;
- Good oral and written English communication skills;
- Academic writing skills are a plus;
- Knowledge of statistics;
- Experience with R open software is a plus;
- Flexible with regards to spending work time in collaborating laboratories.

ADDITIONAL INFORMATION

For more information concerning this vacancy, please contact:

- Maarten De Rijcke, head of the research unit Life's Roots & Rates
 - Mail: maarten.derijcke@vliz.be
 - Telephone: +32 (0)59 34 14 15
- Michiel Vandegheuchte, Research Director VLIZ
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OUR OFFER

- We offer a challenging job in the dynamic environment of VLIZ
- A contract of two years as researcher, which will be followed by a new two-year contract in case of a positive evaluation. The salary follows the salary scales of scientific personnel in the Flemish Government. Through collaboration with academic research groups, the research may lead to a PhD at a Flemish University.
- Fringe benefits: holiday pay, end-of-year bonus, meal vouchers, hospitalization insurance, bike allowance, free public transport for home-work commuting and an attractive holiday arrangement.

DOES THIS VACANCY APPEAL TO YOU?

Send in your cover letter and CV until May 15th 2019 (23:00 CEST):

- By post: Jan Mees, General director VLIZ, InnovOcean site, Wandelaarkaai 7, 8400 Oostende
- By mail: jobs@vliz.be with subject "09 LRR - Vacancy Sea Air Bacteria" Contact us by telephone on +32 (0)59 34 21 30.

VLIZ promotes equality and diversity in the workplace. You will be recruited based on competencies. Qualities of people are decisive, regardless of gender, religion, ethnic origin, age, sexual orientation or any disability.

PROCEDURE

Based on the received motivation letters and CVs, a select group of candidates will be invited for a job interview. You will be informed by email. The job interviews take place in the offices of VLIZ.

Employment can start immediately after the selection procedure and ideally not later than 1st October 2019.

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