

## 2026 - JOB PROFILE PROPOSAL

### JOB TITLE: Professor of MICROBIAL ECOLOGY AND FOOD ALTERATION

Department of assignment: BPSA  
Teaching unit: UP-MicroBioTech  
Research unit: UMR 1014 SECALIM

#### NATURE OF THE JOB

- **Institution:** Oniris
- **Recruitment grade:** PR
- **CNECA section:** 4
- **Disciplines to be filled:** Microbial ecology of food
- **Type of recruitment:** Competitive examination
- **Renoirh job number:** A2ONI00027

#### GENERAL ARGUMENTS AND OBJECTIVES

Oniris VetAgroBio Nantes is a public scientific, cultural, and professional institution under the Ministry of Agriculture and Food Sovereignty. Oniris offers training programs leading to BTS, engineering, veterinary, master's, and doctoral degrees (more than 1,200 students). The institution awards engineering degrees in the fields of food, agri-food, and health biotechnology. The position of Professor is attached to the MicroBioTech Teaching Unit based on the Géraudière campus and to UMR1014 "Food Safety and Microbiology" (SECALIM), a joint research unit between INRAE and Oniris located on the Chantrerie site.

Microorganisms are omnipresent throughout the food production chain, and the environment of food processing plants (floors, walls, equipment surfaces, air, and water) is a major source of contamination. Pathogenic bacteria or bacteria responsible for food spoilage can colonize these environments thanks to their ability to adhere and form biofilms, leading to contamination at every stage of product processing. These persistent bacteria pose a significant risk that must be controlled to ensure food safety and quality. Industrial environmental hygiene therefore plays a key role in food quality and safety management systems. This highlights the importance of strengthening the training of future Oniris engineers in the fields of microbial ecology of food and production environments. It is also essential to conduct research to better understand the impact of these environments on food contamination and to develop effective strategies to control hygiene in production sites.

In this context, the MicroBioTech Teaching Unit and the SECALIM Joint Research Unit have identified a common need for skills, which has led to the creation of a position for a Professor in "Microbial Ecology and Food Alteration." The position will strengthen the skills of the MicroBioTech Teaching Unit, which comprises eight teacher-researchers and four IATOS staff members, enabling it to deliver multidisciplinary teaching that is closely aligned with identified societal and industrial challenges. On the research side, this position will consolidate the structure and scientific strategy of UMR1014 "Food Safety and Microbiology" (SECALIM), a joint research unit between INRAE and Oniris located on the Chantrerie site. It is part of the INRAE Microbiology and Food Chain (MICA) department. SECALIM is administratively attached to the INRAE Pays de la Loire center and the Oniris Research and Doctoral Studies Department. SECALIM's mission is to produce and disseminate scientific knowledge and methods in the field of food safety and microbiological quality in order to meet societal demands. SECALIM's expertise is widely recognized by the scientific community, industry, and French and European health authorities.

## **MISSIONS**

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### **- TEACHING:**

The MicroBioTech Teaching Unit at Oniris incorporates courses in Food and Industrial Microbiology, Biological Engineering, Molecular Biology, Biotechnology, and Health Bioproduction with the aim of providing the scientific, technological, and regulatory knowledge necessary to conduct food and pharmaceutical bioprocesses for the production of healthy, safe, and sustainable products. It therefore contributes to the training of Oniris engineers in the following skills:

- Ensure the quality and safety of food and biomedicine production systems.
- Analyze and understand microbial ecosystems (food, environmental, processes, etc.).
- Study the biodiversity of technological flora and their functional properties for food innovation (fermented products and biopreservation).
- Use the functionalities of biocatalysts (technological flora, cell factories, microbial consortia, eukaryotic cells) for the production of bioproducts (fermented foods, biomedicines, etc.) and the valorization of bioresources.
- Develop, optimize, implement, and industrialize food and pharmaceutical bioprocesses.

Microbiology courses include microbiological spoilage of foodstuffs and the microbiology of food and biotechnological processes (including hygiene during (bio)production). These courses form a core discipline in the Oniris engineering program. They cover the food and biotechnology industries. The successful candidate will teach first-, second-, and third-year students in the Oniris engineering program. Their primary focus will be on teaching courses related to food ecology and hygiene. The teacher will be responsible for providing professional and multidisciplinary training in food and biotechnology process microbiology. They will incorporate the contributions of molecular biology to the identification and characterization of microorganisms of food and biotechnological interest into their teaching.

He will also be called upon to participate in teaching on the “Bioproduction Santé” and “One Health-Emerge” master's programs, jointly accredited by Oniris VetAgroBio and Nantes University. He will also participate in teaching on Oniris' integrated engineering preparatory cycle. As a member of the teaching team, he will contribute to priority initiatives aimed at enhancing the appeal of the engineering campus and strengthening links with technical agricultural education and professional integration sectors.

### **- SEARCH:**

The professor's research activities will be based at UMR 1014 SECALIM (Food Safety & Microbiology), a joint INRAE-Oniris research unit located at the Chantrerie site. The unit's research activities focus on two themes aimed at controlling microbial, health and spoilage risks in food. On the one hand, they aim to understand the behaviour of bacteria throughout the food chain and, on the other hand, to quantify and assess microbial risk. The research activities of the successful candidate will be integrated into the first theme and will focus on microbial ecology and microbiological spoilage of foodstuffs. They will strengthen expertise aimed at:

- Identify the origin of microbiological food spoilage and assess, in particular, the influence of production environments.
- Understand how microbial communities adapt to food processing methods.
- Decipher the specific role of certain components of these communities in food spoilage. These activities will be carried out through the consolidation and development of collaborations with academic and private partners working in this field. The successful candidate's duties will include setting up and coordinating research projects, obtaining public and/or private funding, managing projects and supervising doctoral theses, positioning them as a leading scientist in this field.

## **CANDIDATE PROFILE**

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The candidate must hold a PhD in Microbiology and be qualified to supervise research. They must have recognised experience in teaching Microbiology, particularly in the areas of food safety and hygiene during (bio)production, and must demonstrate their ability to drive change in the way these subjects are taught to engineering and Master's students. In terms of research, the successful candidate must have a proven track record of scientific work and publications in the field of microbial ecology of food and production environments, as well as expertise in microbiological food spoilage. Experience in setting up and managing research and teaching projects at national and/or European level, as well as the ability to develop academic and industrial collaborations, is required.

Experience in publishing scientific articles in international journals and supervising doctoral students is required. The candidate must be fluent in French and English, as these languages will be used as the means of communication in teaching and research activities. He/she must have excellent communication skills in order to integrate into a multidisciplinary team and interact with professional partners.

**CONTACT:**

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