



Identification	Localisation : St Etienne			
PROFESSEUR DES UNIVERSITES				
CNU 64 to 68	Composante : FST, Faculty of Sciences and			
	Technology			
Date de prise de poste : 01 09 2025	Laboratoire de Recherche : BVpam, UMR 5079			

Intitulé du profil en français : Écologie chimique végétale

Profile title in English: Plant Chemical Ecology

Keywords: <u>Plant-Plant chemical interactions</u>, Evolution of plant volatile communication, Plant volatile receptors, Ecology of interactions, Plant response to chemical signals

# 1. Context

The Jean Monnet Saint-Étienne University (UJM) offers training in the 4 areas: Arts, Letters, Languages / Human and social sciences / Law, Economy, Management / Sciences, Technologies, Health, spread over 5 campuses. Jean Monnet University also offers expertise in supporting student success and professional integration, in a rich and dynamic student life environment.

The cutting-edge research and UJMs increasingly numerous international collaborations give UJM an indispensable place in the dynamics of Saint-Étienne, with a growing positioning on a national and international scale. The development of UJM is based on strong international cooperation activities and partnerships, including collaborations with industry which ensure valorisation and transfer of technologies.

Jean Monnet Saint-Étienne University is a member of COMUE Lyon-Saint-Étienne and is a partner in the Transform4Europe European University program.

The Faculty of Science and Technology has around 3,000 students, 180 teachers and university researchers, 65 administrative and technical staff and 250 external speakers. It offers a wide range of training in 7 General Bachelor degrees, 1 Professional Bachelor and 9 Master degrees (incl. 16 specializations). It has 1 common centre, 6 research laboratories attached to the CNRS and 7 educational departments including the Biology department at the Métare campus. Teaching as part of this position will be performed at this campus.

### The laboratory of Plant Biotechnology, aromatic and medicinal plants (BVpam)

BVpam's research aims to develop fundamental knowledge on the plant biology, plant biochemistry and chemical ecology of the chemical communication of aromatic plants. Over the past 20 years, the laboratory has established its expertise in the field of plant chemical interactions, and BVpam is affiliated to CNRS Ecology and Environment UMR 5079. The laboratory has strong collaborations across France, Europe and the rest of the world, exemplified with the latest awarding of research calls like the Horizon Europe project BryoMolecule (including groups from France, Sweden, Poland, Spain and Italy) and the International ANR call, Strass (including groups from France and USA). BVpam constitute of 12 permanent staff (2 Professors, 6 Associate Professors, 1 Research engineer, and 3 technical staff) and several post docs and PhD students.

The research of the BVpam laboratory revolves around three major themes: The biosynthesis of volatile organic terpenoids (and some other compounds), development specialised cell compartments for volatiles, and the impact on communication between plants and other organisms. The general theme is volatile terpenoids, ranging

from the biosynthesis of these, including biotechnological developments, the storage and release, and finally interpretation of the chemical signal mediated by the volatile terpenoids. With experiments in controlled or natural ecosystems, we seek to elucidate the functional role of specific compounds and have for many years been focused on terpenoids.

# 2. Teaching activities

BVpam is part of The Department of Biology-Biochemistry. BVpam contributes to teaching in two Bachelor degrees (Biology of organisms and Cellular biology and physiology) and the current main Master degree in Chemical Ecology and Environnement. Within the next two years it is planned to change the current master to two international masters in Plant Chemical Ecology and Plant Molecular Biology to complement research performed in the laboratory. The future Professor will have a strong involvement in setting up the international Plant Chemical Ecology program and contribute with teaching e.g. ecological understanding of plant interactions and plant interactions with other living organisms. With recent and upcoming retirement, it is also expected that the coming professor will contribute to general teaching in plant biology, botany and plant physiology and cell biology. Significant experience in teaching in the areas of plant chemical ecology, botany and plant physiology will be preferred, along with experience with development of novel innovative teaching methods.

## 3. Research profile

BVpam is seeking a candidate with an internationally outstanding research profile in plant chemical ecology with a broad interest in ecological interactions mediated through olfactory signals, within and among species. The candidate should preferably have a special focus on plant-plant interaction, how volatile/semi-volatile terpenoids are released, perceived, and processed in plants (inter + intra-species). The research should focus on the transport, accumulation, and function of plant volatiles, studies of the mechanisms, the strategies and compromises by the plant, and the "costs" required when plant emit and receive volatiles. This should preferably include the characterization chemical signals and responses in the plant, including biochemical characterization of plant volatile receptors and cell signalling cascades. Holistic systems biology-based approaches (transcriptome, proteome, metabolome) of aromatic plants are key technologies for BVpam. Furthermore, research covering the plant-insect interactions and possibly other volatile interactions complements the local research interests. The active integration into and interaction with local key research areas, such a terpenoid biochemistry in plants, including Lavender, Roses, Pelargonium and many more is expected. Furthermore, a close cooperation with the local research partners in the region Auvergne Rhone-Alpes is essential.

### The candidate

The selected candidate should have documented international experience. The candidate should also have obtained funding like larger national grants, and should have a documented track record to obtain EU and other international grants. Experience with industrial collaboration record is beneficial.

It is NOT a requirement to speak French, but the candidate is required to be able to teach and communicate in scientific English, as this is the day-to-day language at the laboratory.

# 4. Other Responsibilities

The candidate will assume responsibilities in both teaching (bachelor's and/or master's level) and research (program manager). The candidate is expected to get involved in steering of BVpam, in close coordination with the other professor in the laboratory.

For further information please contact Henrik Toft Simonsen, Professeur et Directeur de Laboratoire by email : henrik.toft.simonsen@univ-st-etienne.fr