

## ACADEMIC POSITIONS

### JOB DESCRIPTION

- **JOB TITLE/PROFILE:** Post-doctoral research associate in Marine Natural Products Chemistry
- **RESEARCH FIELD(S)<sup>1</sup> Natural Sciences**
- Marine Natural product chemistry, MS and NMR-based Metabolomics, Chemical Ecology, Anti-Microbial drug discovery

- **JOB DESCRIPTION**

The Ocean Sciences Institute with A\*midex is funding a 12-month Post-Doctoral position to contribute to the MARINDIV project.

The MARINDIV research project adopts an interdisciplinary approach to inventory the biodiversity of sessile invertebrates, dominated by Ascidians and Bryozoans, in the Bay of Marseille's marinas and ports. The first objective of the project is to characterize their metabolic profiles, examining variations in response to pollution levels and geographic origins. The second objective is to identify overproduced metabolites, which are potentially involved in detoxification and may possess antimicrobial properties.

- The candidate will be in charge of (1) sample extraction and fractionation (2) LC-MS data acquisitions and processing through the implementation of a standardized metabolomic workflow (from MZmine to multivariate data analyses and molecular networking), (3) conduct antibacterial assays with the prepared extracts and fractions, (4) MS data annotation combined with structure dereplication or identification of bioactive candidates

#### Research environment:

The MARINDIV project, coordinated by Charlotte Simmler (IMBE, Marseille), specialized in natural product chemistry, brings together Christophe Lejeusne (IMBE, Marseille) marine ecologist specialized in exotic invasive species, and Véronique Sinou (MCT, Marseille), microbiologist in charge of the BAC-SCREEN platform. The post-doctoral researcher will work in close collaboration with each of them.

<sup>1</sup> **Social Sciences** - Law, Education, Economics, Social Science, Psychology - **Political Science** - Political Science - **Computational Sciences** - Computer Science, Mathematics - **Engineering** - Architecture and Design, Engineering - **Natural Sciences** - Biology, Chemistry - **Physical Sciences** - Physics, Space Science - **Environmental Sciences** - Agricultural Science, Geosciences - **Humanities** - Theology, Philosophy, Literature, Linguistics, History, Anthropology, Arts and Culture - **Medical Sciences** - Medicine

Hence, this interdisciplinary project associates two laboratories in Marseille: the “Institut Méditerranéen de Biodiversité et d’Ecologie” (IMBE, UMR 7263 CNRS) and the laboratory of “Membranes et Cibles Thérapeutiques” (MCT, UMR\_MD1, INSERM U1261) joint with the BAC-SCREEN platform.

The laboratory at IMBE is fully equipped with state-of-the-art instruments in natural product chemistry within a joint resource localized at the marine station (e.g., UHPLC-UV-HRMS with a Bruker qTOF IMPACT II, ASE automatic SPE extraction, centrifugal partition, flash and preparative chromatography). All the antimicrobial assays will be performed at the MCT laboratories with the BAC-SCREEN platform.

#### ○ **QUALIFICATIONS/SKILLS/EDUCATION & RESEARCH REQUIREMENTS**

Qualifications-Education: PhD in natural product chemistry with publications in scientific journals and presentations at international conferences.

Technical Skills:

Experience in MS-based metabolomics, multivariate data analyses and structure dereplication. Ability to use a varieties of open access software and molecular databases for data processing, dereplication and graphical representations. Experience in purification of natural products.

Communication skills:

Experience in writing first author-publication in English. Presentations at international conferences

Other skills:

Keen interest in marine invertebrate biology and taxonomy.

Knowledge in microbiology and antibacterial assays

Experience in management of sample libraries.

#### ○ **APPLICATION DEADLINE**

Please submit your application in English no later than 1<sup>st</sup> of May 2024. **International candidates are encouraged to apply.**

#### ○ **STARTING DATE**

The position will start ideally in November 2024. The available position is for one year (12 months). An extension of the position will be considered as additional funds become available.

#### ○ **JOB LOCATION**

Institut Méditerranéen de Biodiversité et d’Ecologie (IMBE UMR 7263 CNRS), Station Marine d’Endoume, Chemin de la batterie des Lions, Marseille, France

#### ○ **REQUESTED DOCUMENTS OF APPLICATION**

Letter of motivation, detailed CV (both in English) and 2 reference letters.

#### ○ **CONTACT TO APPLY**

[yoan.furtado@osupytheas.fr](mailto:yoan.furtado@osupytheas.fr)

[virgnie.sanial@univ-tln.fr](mailto:virgnie.sanial@univ-tln.fr)

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