

## Marie Skłodowska Curie Ph.D. student / Early Stage Researcher (f/m)

### Investigation of bioactive secondary metabolites of Boraginaceae species ESR5

- **Organisation/recruiting unit:** National and Kapodistrian University of Athens
- **Research field:** Chemist, Pharmacist, Biochemist or relative sciences
- **Research profile:** First Stage Researcher (R1)

For the Innovative Training Network (ITN) project **MICROMETABOLITE** - *Research Training Network on the Microbial Enhancement of Bioactive Secondary Metabolite Production in Plants* (H2020-MSCA-ITN-201 – grant agreement number: 721635) we are looking for an early stage researcher in the field of Chemistry, Pharmacy, Biochemistry or relative sciences. The researcher fellow will be hosted at the Department of Pharmacognosy and Natural Products Chemistry, Faculty of Pharmacy, for a period of 36 months.

Microbiomes associated with medicinal plants (e.g. members of the Boraginaceae family) may play an important role in modulating bioactive secondary metabolites. In MICROMETABOLITE the interaction between microbiomes, metabolomes and environment and the underlying microbial functions and mechanisms will be investigated. Suitable plant production systems integrating microorganisms will be developed to improve the production of desirable bioactive compounds.

#### Objectives

- to collect wild plants of *Alkanna tinctoria* and related species from 15 locations in Greece and to isolate Alkannins and Shikonins (A/S)
- to develop analytical methods based on high performance thin layer chromatography (HPTLC) or Super critical Fluid Chromatography (SFC) or Liquid Chromatography Mass Spectrometry (LC-MS) for the quantification of A/S contents
- to perform MS (or NMR) based metabolic profiling of Boraginaceous plants collected from the wild, cultivated *in vitro*, by semi-hydroponics or field cultivation, to determine variation in metabolite production and perform metabolomics analysis
- to dereplicate Secondary Metabolites and perform targeted isolation and identification of compounds induced by selected microorganisms

#### Secondments

The research fellow will have to follow a number of secondment(s):

- at Institute for Pflanzenkultur EK, Germany, to study the *in vitro* plant production systems to evaluate the reliability of semi-hydroponics (2 months)
- at the Universite Catholique de Louvain, Belgium, to isolate and characterize AMF / fungal endophytes (2 months)
- at Universiteit Gent, Belgium, to be trained in microbial identification (1 month)
- at Pierre Fabre Research Institute to produce and evaluate plant extracts (2 months)
- at the Aristotelio Panepistimio Thessalonikis, Greece, to analyse total A/S contents and their enantiomeric ratio (2 months)

#### Additional Information

##### **1. Specific Requirements**

- **Requirement 1 (early-stage researchers):** Applicants must, at the date of recruitment by MICROMETABOLITE, be in the first four years (full-time equivalent research experience measured from the date when the researcher obtained the degree entitling him/her to embark on a doctorate) of their research careers and have not been awarded a doctoral degree.
- **Requirement 2 (mobility rule):** Applicants must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting institution for more than 12 months in the 3 years immediately before the recruitment date. This excludes short stays such as holidays or compulsory national service.

- **Requirement 3 (specialisation):** Candidates should have a master level degree or equivalent in Chemistry, Pharmacy, Biochemistry or relative sciences relative to Pharmacognosy and Natural Products Chemistry. Experience in the research scope of MICROMETABOLITE is a vital asset.
- **Requirement 4 (English):** Proficiency in English is essential, as it is the working language of the MICROMETABOLITE Network.

## 2. Benefits

- Enrollment for PhD studies at the National and Kapodistrian University of Athens, Faculty of Pharmacy
- Individual research training trajectory, on-site supervision
- Full-time contract
- Salary according to Horizon 2020 Marie Skłodowska Curie Actions funding scheme including a monthly living allowance (2882.97 €), a monthly mobility allowance (600 €), a monthly family allowance (250 €). A correction factor will be applied per country, therefore the exact gross salary will be confirmed upon appointment. Please consider that the net salary may be 30-40% lower due to taxes, social benefit premiums etc.
- Conducting research in a dynamic, international and multicultural team
- For more information on MICROMETABOLITE, please visit:  
<http://www.micrometabolite.eu/index.php/job-offers>

## 3. Application procedure and selection process

Recruitment will follow the principles set out in the **European Charter for Researchers** and in the **Code of Conduct for the Recruitment of Researchers** (2005/251/EC; <http://ec.europa.eu/euraxess>), in accordance with the hosts' standard procedures and in line with their **Equal Opportunities Policies**. Recruitment will integrate the gender dimension to ensure equal employment opportunities for both sexes. The project will ensure an **open competition at international level**.

The **selection** will be made by a **Recruitment Committee**, which will be gender balanced and comprise diverse expertise and competences.

The selection process will take into consideration the whole range of experience of the candidates (**judging merit**). For instance, their creativity, curiosity, motivation, and level of independence will be considered. Similarly, **mobility experience** will be considered as a valuable contribution to the professional development of the researcher.

- A first selection will be made on CV. Each candidate will be informed about the strengths and weaknesses of his/her application.
  - A short list of potential candidates will be contacted and interviews will be conducted by skype.
  - Final decision will be taken and each candidate will be informed about the outcome.
- 
- **Offer starting date:** 01/06/2017
  - **Application deadline:** 30/07/2017
  - **Interviews:** between 01/09/2017 and 30/09/2017
  - **Selection of Candidate:** 01/10/2017
  - **Envisaged job starting date:** 01/11/2017
- 
- To apply, please send your CV together with a letter of motivation and referee(s) to Makropoulou Katerina ([kmakro@pharm.uoa.gr](mailto:kmakro@pharm.uoa.gr))