

## About Fera

Fera Science Ltd (Fera) is a leading UK centre for sustainable agriculture and plant protection research, providing truly interdisciplinary applied research for commercial and government customers. Our overarching purpose is to support and develop a sustainable food chain, a healthy natural environment, and to protect the global community from biological and chemical risks.

Fera and the NaToxAq Marie-Curie Initial Training Network offers an:

### **Early Stage Researcher (ESR) position (PhD Student)**

#### **Topic: Natural Toxins and Drinking Water Quality – From Source to Tap**

#### **Background**

NaToxAq is a multidisciplinary European Training Network (ETN) funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 722493 and comprises 21 leading universities, research institutions/agencies, and water enterprises in 7 European countries, which aim to expand insight on natural toxin identity, analysis, fate, dissipation, removal during water treatment, health effects, and risk assessment under the impact of climate change, to ensure safe and healthy waters for European consumers. Further information on the NaToxAq project and consortium partners can be found at: [www.natoxaq.eu](http://www.natoxaq.eu).

#### **Predicting the contribution of natural toxins to chemical mixtures in drinking water sources (ESR 15)**

Many plants and fungi (uncultivated and cropped) produce natural toxins that have the potential to leach to drinking water sources. Whilst the environmental fate and the impact of xenobiotics in the environment have been widely researched, there is very little knowledge on the fate of natural toxins, particularly in relation to potential risks to drinking water. A variety of intrinsically toxic chemicals can exist within water catchments at any one time. The aim of this work is to establish the contribution of natural toxins to this chemical mixture at the catchment scale.

The study will utilise GIS to map crop and natural plant cover (e.g. bracken) in relation to factors such as soil, slope, climate and water bodies. The impact of external factors such as climate change, government policy and market prices on crop type/land cover will be examined to predict a range of future land use scenarios under different circumstances. The findings will be combined with data on toxin production, toxin plant-to-soil transfer and the environmental fate of natural toxins (obtained from the wider NaToxAq project) to assess the likely natural toxin load in surface and/or groundwater under different scenarios and hence options for minimising risk can be proposed.

#### **Experience and mobility conditions**

Applicants must hold a degree in environmental sciences or a related field that meets the entry requirements for postgraduate study listed at: <http://www.york.ac.uk/study/international/your-country/>. Preference may be given to applicants with a Masters qualification or equivalent workplace experience. Experience in GIS and/or an understanding of the fate of chemicals in soil/water would be advantageous. Fluency in English (working language) is required. Applicants will need to demonstrate that they meet the Postgraduate Language requirements for the Environment Department listed at: <http://www.york.ac.uk/study/postgraduate/apply/international/english-2016-17/>

To be eligible, applicants for Early-Stage Researcher fellowships must have no PhD and less than 4 years full-time equivalent research experience from the award of the degree which entitles them to undertake a doctorate. Applicants can be any nationality, but they must comply with the eligibility

requirements for Marie Skłodowska Curie Fellowships. Further information on eligibility can be found at: [http://ec.europa.eu/research/mariecurieactions/about-msca/actions/itn/index\\_en.htm](http://ec.europa.eu/research/mariecurieactions/about-msca/actions/itn/index_en.htm)

### **Main duties**

The post is a full-time research position and duties will include:

- Searching existing literature, datasets and models to extract relevant information
- Collating and applying the relevant information to new scenarios e.g. changes in land use
- Collaborating with other Natoxaq ESRs to align research
- Presentation of findings at seminars/conferences
- Writing scientific and/or commentary articles for e.g. journals, webpage

### **Duration and place of employment**

The ESR will be employed by Fera for 36 months, starting as soon as possible. The ESR will be based at Fera, Sand Hutton, York but they will be enrolled at the Environment Department, University of York, UK under the supervision of Prof. Colin Brown. A secondment is planned for 1 month at HOFOR (Greater Copenhagen Utility) and the ESR will work closely with Yorkshire Water. Attendance of annual training courses over a 1-2 week period at host organisations within the NaToxAq network is also expected.

### **Benefits**

Situated just outside of the beautiful city of York, Fera staff enjoy a purpose-built facility with state-of-the-art facilities, a nursery, onsite gym, staff restaurant and parking. The site is just 7 miles from the historic city centre with its excellent transport links and varied attractions, and within easy commuting distance of the many thriving Yorkshire towns and villages that are situated around the city.

Fellows will receive a contract of employment as a full-time researcher at Fera for the relevant period of their appointment, which will include applicable benefits in the host country. All fellows will complete a comprehensive personalised career development programme, with targeted training measures and participate in a range of network events. Fellows will benefit from interdisciplinary cooperation and interaction within the network, providing them with the best preparation for a successful career in either academia or industry. Marie Curie Fellowships for Early-Stage Researchers provide competitive salaries in line with H2020-MSCA-ITN-2015. Additional allowances for mobility, travel and career development are also provided.

### **Application process**

Applications must be completed in English. Please send a copy of your CV, details of modules taken and associated grades (Transcript), an abstract of the BSc and MSc thesis (if applicable) or any previous research project, and a covering letter explaining why you are applying for this position to [carmel.ramwell@fera.co.uk](mailto:carmel.ramwell@fera.co.uk).

The advert was posted on 07 November 2017 and **the closing date for applications is 05 December 2017**. Interviews will take place on 14 December 2017.

For further information about the position please contact the principal supervisor, Dr Carmel Ramwell: [carmel.ramwell@fera.co.uk](mailto:carmel.ramwell@fera.co.uk)