PhD position (FPI call): *EDIBLE CITIES* – health benefits and risks from Mediterranean urban food production

The role

Re-inventing neglected urban areas into growing-your-own produce initiatives is rapidly expanding and gaining popularity across Western countries, yet policies supporting integration of productive urban landscapes are still poorly developed. This multidisciplinary proposal aims at integrating biogeochemical, agricultural, sociological and health data in a risk assessment model that considers both health benefits and risks of urban food production in Mediterranean cities, where urban soils are historical archives of past industrial activities. The key driver is to develop evidence-based tools to reliably assess the impact on health from urban agriculture, which can be assist authorities in decision-making on the development of productive urban landscapes resilient to environmental and economic stresses, increasing the opportunities for greenspaces whilst safeguarding gardeners' health.

The researcher will have the opportunity to develop a wide range of multi-disciplinary skills and experience, with a strong focus on analytical aspects applied to sustainable agriculture and food quality issues and in collaborative work with local and overseas researchers of various disciplines. Research tasks include a geochemical survey to identify inorganic and organic pollutants of concern in existing urban allotments and the soil properties controlling their biogeochemical behaviour and plant uptake. Risk to environmental receptors will be addressed by developing methodologies tailored to exposure pathways relevant to urban gardeners. Engagement with local urban agriculture will shed light on the benefits associated with urban allotment gardening in a Mediterranean environment. The PhD student will be expected to present research results at national and international scientific conferences and prepare manuscripts for publication in reputable peer-reviewed journals.

Institute of Environmental Assessments and Water Research (IDAEA-CSIC)
c/ Jordi Girona, 18-26. 08034, Barcelona (Spain)
www.idaea.csic.es

What do we look for?

We seek candidates for an FPI Fellowship (Formación Personal Investigador, Spanish Ministry of Science and Innovation and Universities).

- **Qualifications**
  M.Sc. in Environmental or Earth Sciences, Chemistry, Biology, Soil Science or a related discipline
- **Professional experience**
  No previous experience is required
- **Competences**
  Practical experience with laboratory work is desirable. Familiarity with soils and plants will be useful. A good level of English is a plus.

Working conditions

- **Contract duration**: **4 years**
- Estimated annual gross salary: 21,000€ (FPI fellowship)
- Additional funding to cover tuition fees and research secondment abroad
- Target start date: mid-2021

The group

This proposal is a joint effort by researchers from the Environmental Pollution & Agriculture (**EPA**) and Environmental Geochemistry and Atmospheric Research (**EGAR**) groups.

Maria Izquierdo is an Environmental Geochemist interested in the biogeochemical behaviour of stable in radioactive trace elements in biologically active soils. Her main goal is to increase our understanding -and the ability to predict potential transfers of both pollutants and nutrients to environmental receptors.

Sergi Díez is an Environmental Chemist interested in fate, transport, and transformation of trace metals and metalloids in aquatic and terrestrial ecosystems and wildlife. His research involves field work and development of analytical methodologies for studies of trace metal speciation and bioavailability in the environment, as well as risk assessment.

The institute

The **Institute of Environmental Assessment and Water Research (IDAEA)** is an environmental science institute devoted to the study of the human footprint on the biosphere. Much of the research work at this institute is centred on two of the great environmental challenges of our time: cleanliness and availability of water and quality of air.

Founded in 2008 as a member of the **Spanish National Research Council (CSIC)**, the Institute brings together a wide range of expertise in environmental science. It is organized under two Departments (Environmental Chemistry and Geosciences), established with a strong record of publication in top scientific journals, leading international projects, membership on international committees, and adopting a high-profile contribution to the identification and remediation of environmental problems.

IDÆA has demonstrated strengths in the analysis of organic pollutants and their impact on ecosystems, the study and management of water resources, the development of multivariate resolution algorithms in chemometrics, and in the study of inhalable particulate matter and toxic gases.

IDÆA has been recently awarded with the distinctive **Centre of Excellence "Severo Ochoa"** (2020-2023), distinction that indicates the high-quality scientific leadership and global impact of the work developed at the centre.

We offer a diverse and inclusive environment where no discrimination against disability, gender, nationality, religion or sexual orientation will occur during the selection process.

How to apply?

Those interested may email their **CV** and **motivation letter** to **Maria Izquierdo** at maria.izquierdo@idaea.csic.es AND **Sergi Díez** at sergi.diez@idaea.csic.es, adding 'FPI position' to the email subject before 26/10/2020

Applicants interested should present their candidatures (from 13 to 27/10) through the official web page:

https://www.ciencia.gob.es/portal/site/MICINN/menuitem.dbc68b34d11ccbd5d52ffeb801432ea0/?vgnextoid=490233572bed4710VgnVCM1000001d04140aRCRD&vgnextchannel=115222e988f75610VgnVCM1000001d04140aRCRD&lang_choosen=en

Deadline: 27/10/2020 at 14:00h