

INFORMATION CALL 2019
DOCTORAL INPhINIT FELLOWSHIPS PROGRAMME – INCOMING FRAME

PhD POSITION OFFER FORM

Position

1. Project Title/ Job Position title:
Improving cities and health with urban agriculture
2. Area of Knowledge: (choose one option)
 - Life Sciences XXXX
 - or
 - Physical Sciences, Mathematics and Engineering
3. Group of disciplines: (choose one option)

LIFE SCIENCES

Medicine, Public Health, Sport Sciences, Nutrition, Clinical Psychology, Health Management
Animal, Plant, Environmental Biology, Physiology, Ecology and Conservation
Human Biology, Microbiology, Molecular Biology, Genetics, Cellular Biology, Genomics and Proteomics, Biochemistry
XXXX Agriculture, Veterinary Science, Animal Production, Forestry
Biotechnology, Bioinformatics, Pharmacy, Food Technology

PHYSICAL SCIENCES, MATHEMATICS AND ENGINEERING

Theoretical and Applied Mathematics, Computer Sciences
Physics
Geology, Earth Sciences, Environmental and Atmosphere Sciences, Mines, Geological Engineering, Oceanography, Hydrology

Civil and Construction Engineering, Energy, Nuclear Energy and Renewable Energy Engineering

Chemistry and Chemical Engineering

Telecommunications, Electronics, Robotics, Biomedical Engineering, Automation Engineering, ICT

Industrial Engineering, Mechanical Engineering, Metallurgy, Materials, Nanotechnology, Aeronautical, Naval and Aerospace Engineering

4. Research project/ Research Group description (màx. 2.000 caràcters)

Urban areas are increasingly larger and more numerous. They use nearly 70% of energy and are responsible for 75% of world GHG emissions. Urban areas are strongly dependent on outside sources for food, water, and energy, making them vulnerable and responsible for high environmental impacts. Food production relies on energy (particularly for transportation) and water, which depends on energy for its treatment and transportation. Clearly, there is a growing urgency to combine energy, water, food and environmental factors as synergetic research topics at the city level to support decision and policy design. The Sostenipra research group (www.sostenipra.cat) has dedicated its research efforts in promoting more sustainable urban areas by optimizing the use of resources at city level. The aim of the **Improving cities and health with urban agriculture** project is to advance the ongoing research in the water-energy-food nexus carried out by Sostenipra. The overall objective is to learn how to design and manage cities or neighbourhoods in a more sustainable manner, addressing the challenge of food security and quality in cities through sustainable food production. Within the project Fertilecity II funded by the Spanish Ministry of Environment (CTM2016-75772-C3-1-R, 2017-2019) (www.fertilecity.com), the group is deepening on research of urban agriculture. During last years, different lettuce, beans and tomato crops were grown in our rooftop. Such facility is currently connected to the building in terms of water, energy and CO₂, but only one-way, from the building to the greenhouse. The project will address subjects such as open air production in cities and greenhouses, the use of external light and LEDs, aquaponics systems combined with hydroponic, the development of new protocols, innovations on the use of agricultural waste, sustainability analysis and the identification of business models and their transfer to national and international entities.

5. Job position description (màx. 2.000 caràcters)

The candidate is required to have a bachelor degree in engineering (or equivalent); and a Master degree in Environmental Engineering, Agronomic Engineering, Chemical Engineering, Energy Engineering, Industrial Ecology, (or equivalent).

Specific abilities and skills: Life Cycle Analysis; impact indicators; urban sustainability; CFD; LCA software; environmental databases; land use; plant evapotranspiration; nutrient cycles and statistics. The candidate should have the ability to work collaboratively on cross-disciplinary projects too.

The candidate is expected to participate in other projects that are being developed by the research group, to complement his/her learning experience and project management skills. Furthermore, participation in an International institution for the period of three months or more will be encouraged in order to collaborate with other researchers and obtain the European Mention in the PhD degree. Other activities that the candidate will participate in are: communicate results in an International conference, present a seminar to the UAB scientific community, and disseminate his or her research to the non-scientific community. It is also expected that the candidate is responsible for his/her career development plan and actively seeks advice when needed, knows how to work independently and in a group, and is respectful and helpful to others.

Group Leader

1. Title: Dr
2. Full name: **Xavier Gabarrell Durany**
3. Email: **Xavier.gabarrell@uab.cat**
4. Research project/ Research Group website (Url): www.fertilecity.com /www.sostenipra.cat
5. Website description:

Other relevant websites (optional)

1. Url:
2. Website description: