

Horizon Europe Brokerage Event Cluster 6 Calls 2024

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Minor crops, Great opportunity for agrodiversity

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The University of Extremadura is a training and research multidisciplinary institution that this year celebrates its 50th anniversary.

According to Shanghai's ranking, it is among the 800 best in the world. Its international well-position is shown in its coordination of the European University Alliance EU Green, participation in international networks such as Unilion, or its coordination and participation of projects within Horizon Europe or Erasmus+.





Topic addressed

HORIZON-CL6-2024-BIODIV-02-3-two-stage: Promoting minor crops in farming systems

Other topics of interest:

HORIZON-CL6-2024-BIODIV-01-4: Biodiversity, economics and finance: Understanding macro-financial risks associated with biodiversity loss

HORIZON-CL6-2024-BIODIV-02-1-two-stage: Demonstrating Nature-based Solutions for the sustainable management of water resources in a changing climate, with special attention to reducing the impacts of extreme droughts

HORIZON-CL6-2024-BIODIV-02-2-two-stage: Demonstrating the potential of Nature-based Solutions and the New European Bauhaus to contribute to sustainable, inclusive and resilient living spaces and communities

HORIZON-CL6-2024-FARM2FORK-01-1: Agro-pastoral/outdoor livestock systems and wildlife management

HORIZON-CL6-2024-CircBio-02-4-two-stage: New circular solutions and decentralised approaches for water and wastewater management



Project

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Evaluate different minor crops in different environmental conditions



idea

Search for physiological elements of each crop that allow adaptation to specific environmental conditions: abiotic or biotic factors

Search for polymorphisms in key genes involved in the plant physiological development that allow identifying within a species, plants with better adaptation depending on the environment

Design a sustainable plant breeding program for the development of hybrids with agroeconomic interest but without reducing genetic diversity

Test and analyze the behavior of each hybrid under controlled conditions and in open field





Main expertise offered / sought

In our Plant Physiology, Cellular and Molecular Biology research group we are experienced in the analysis and **evaluation** of **responses** to **abiotic** and **biotic stresses** in plants. Through our expertise in projects and works related to **plant-pathogen interaction** and **plant response** to **abiotic stress** caused by the presence of **heavy metals** or **metalloids** in **toxic concentrations**, we are able to assess how different environments would affect different plant species.

- Our research group can collaborate in the **phenotyping assays**, **biochemical** and **molecular analysis** of **oxidative responses** and other **physiological processes** with the **aim** of **determining** which are the **most adapted species** to the **environments under study**.

- We can carry out breeding trials in controlled conditions in culture chambers or greenhouses or open field.

- We can **do** experimental **trials** to **find parental lines** or to test **plant varieties resistance** to **pathogen infection**, including **phenotyping** and **development** of **molecular markers**.



Relevant projects or others Funding programs

Proyectos EXCELENCIA y Proyectos RETOS:

SCANNING: Stomata in models and crops: from genes and mechanisms that set their abundance to field phenotyping using non-invasive imaging (AGL2015-65053-R). By Ministerio de Economía y Competitividad, Government of Spain. Rol: PhD Researcher.



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Ayudas Torres Quevedo:

Development of pepper varieties more tolerant to abiotic factors (salinity) through the search and characterization of molecular elements that modulate stomatal abundance (PTQ2019-010809). By Ministerio de Ciencia e Innovación, Government of Spain.

Collaboration in activities in projects funded by the Regional Goverment:

"Test-cann: Development of in situ tests for the early detection of synthesis enzymes and cannabinoids for the determination of chemotypes in Cannabis sativa crops".

"Cannabigen: Development of molecular techniques for the identification of strains and varieties of Cannabis sativa"

Rol: Collaborating Researcher.





Latest publications

Abiotic stress

https://doi.org/10.3390/antiox12030678

https://doi.org/10.3390/antiox10111698

https://doi.org/10.1007/s10653-020-00616-0

https://doi.org/10.1371/journal.pone.0183991

Abiotic stress

https://doi.org/10.1371/journal.pone.0100132

doi: 10.3389/fpls.2020.584471

https://doi.org/10.3390/antiox11091720

Genetic edition

doi: 10.3389/fpls.2018.00940

doi: 10.3389/fpls.2019.01300



Main expertise offered / sought



Location







Networks

Dra. Carmen Fenoll Comes from UCLM (Spain)
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Public research – Dr. Simón Aurelio Ruíz Lara from Universidad de Talca (Chile) groups Dr. Antonio Molina Fernández from CBGP, UPM-INIA (Spain) Genetic editing of plants, bioinformatic analysis, infection test of pathogenic organisms, microscopy

 Private research centers
 Enza Zaden SLU (Netherlands)
 molecular mark of polymorp

 Centro Tecnológico Nacional Agroalimentario de Extremadura (Spain)
 parental lines

Plant breeding, development of molecular markers, identification of polymorphisms, tests of parental lines and hybrids and facilities



Thanks for your attention

https://opendata.unex.es/investiga/grupos-de-investigacion/BBB015