

Expression of Interest



Contact Person/Scientist in Charge

- **Name and surname:** AGUSTIN BLASCO
- **Email:** ablasco@dca.upv.es

Universitat Politècnica de València (UPV)

Department / Institute / Centre

- **Name:** INSTITUTE FOR ANIMAL SCIENCE AND TECHNOLOGY - Universitat Politècnica de València
- **Address:** Campus de Vera, Camino de Vera, s/n, 46022 Valencia
- **Province:** Valencia

Research Area

- Life Sciences (LIF)

Brief description of the institution:

Universitat Politècnica de València (UPV) is the single Spanish Technical University that features in the main University world rankings. It is within the top 5 Spanish Universities with the highest revenue from both public research and knowledge transfer activities, and a national leader in patent license income and start up creation. Constituted in 1971, it comprises nearly 30.000 students, over 2500 academics, and 17 university research centres of excellence.

UPV has a relevant experience in the participation in international research programmes, with over 100 FP7 projects and 40 H2020 projects in the period 2014-2015. UPV researchers are also actively involved all H2020 life program stages, from workprogramme drafting discussions, to project coordination. It is also taking part in several major partnering initiatives (JTIs, PPPs, KICs...).

Brief description of the Centre/Research Group (including URL if applicable):

The project team was constituted in 1986 and has focused its activity in animal breeding and genetics, developing experimental rabbit lines divergently selected for several traits. When the rabbit platform for genomic analysis was available in 2015, research has been reoriented for integrating genomic and metabolomics analyses in the currently selected lines.

Members of the team regularly present invited main papers in international congresses, and had been awarded by several institutions. The team has published more than 400 papers, of which more than 100 are in high impact journals.

The team, simultaneously to the development of experimental lines, has contributed to the implementation of projects of dissemination of genetic progress, leading the industry of genetically improved rabbits in Spain.

More information can be found in <http://dca.webs.upv.es/dcia/ablasco/>

Project description:

Genomic and metabolomic analysis of lines divergently selected for intramuscular fat content. Rabbit as an experimental model

The recent publication (2014) of the rabbit genome sequence creates new research opportunities. Information about the rabbit genome, coupled with the ability to simultaneously analyze a large number of metabolites at low cost, will answer important questions related to basic biological processes controlling economically decisive characters, not only in rabbits but in animal production. The rabbit is in this sense a model for other livestock species, primarily for monogastrics.

We have two lines divergently selected for muscle fat content in Longissimus muscle initiated in a previous project. Selection is carried out by full sibs. Intramuscular fat of Longissimus muscle is evaluated by NIRS in two animals of the first parity of each doe; the selection takes place on sibs of the second parities of the females, using the data from the first parities.

A genomic study of the lines with a 200K chip will be performed. The experiment will be integrated with a metabolomic approach that will inform genomic regions showing selection signature, and by constructing approximate metabolomic pathways, we will try to reconstruct the metabolomic differences between the high and low lines in order to understand better how selection affects the metabolic pathways of fat deposition. A target metabolite identification and quantification will be assayed using the Absolute IDQ p180 kit. The Absolute IDQ p180 mass spectrometry assay preparation kit quantitatively analyses a large number of metabolites that have already identified as part of key biochemical pathway, providing fundamental data to link changes in the metabolome to biological events such as fat deposition.

Applications

The researcher should submit CV and letter of motivation. The deadline is 15 July 2016