Position available for integrative bioinformatic analyses of *C. elegans* ageing

A POSTDOCTORAL research position is available for highly motivated scientists, able to work independently and to contribute to an enthusiastic working atmosphere, with strong willingness for interdisciplinary work.

Research project:
Ageing is a multifactorial process characterized by a general physiological decline. Studies in the nematode *C. elegans* have revealed several pathways regulating lifespan across phyla, like the insulin/IGF-1 signalling pathway (IIS), dietary restriction and mitochondrial function. We have recently uncovered a novel, key role of the mitochondrial prohibitin (PHB) complex in coordinating fat mobilization and mitochondrial energy metabolism, in response to IIS and energy demands, during aging. Intriguingly, PHB depletion shows striking, opposing effects on aging: it reduces lifespan in wild type animals, while by contrast, under stress or low IIS it dramatically extends lifespan. However, the biochemical function of PHB remains poorly understood. The aim of our research is to identify the cellular mechanisms underlying the strikingly opposite effect of PHB depletion on longevity depending on intrinsic or extrinsic cues. To fulfill this aim, we have generated high-quality data from different large-scale approaches. Namely, genome-wide RNAi screens to elucidate signalling pathways involved in the stress response to PHB depletion in both wild type and IIS mutants and metabolic profiling of wild type and IIS mutants in the presence and absence of the PHB complex. We are currently gathering global gene expression (RNAseq) data under these conditions during ageing.

Job Description:
- Integrate RNAseq data in the *C. elegans* genome-scale metabolic model to identify metabolic signatures during aging.
- Assess the impact that particular genes of interest have in the *C. elegans* genome-scale metabolic model.
- Integrate omics data and association with ageing.

Requirements:
- PhD in biology, molecular biology, bioinformatics, biostatistics or in a related discipline.
- Programming, shell programming, R programming.
- Transcriptome analyses of large-scale datasets.
- Knowledge in statistical data integration would be desirable.
- Experience working with genome-scale metabolic models is of advantage.

Application:
Applicants should send **a single pdf file** to Marta Artal-Sanz (martsan@upo.es), containing:
1- Cover letter expressing your interest on the proposed research and relevant expertise. 2- CV and 3- Contact details (phone and e-mail addresses) for 2-3 referees, or reference letters. Only qualified candidates will be contacted.

Deadline for applications: March 15th, 2017

The laboratory is housed at the Andalusian Centre for Developmental Biology (http://www.cabd.es/en-home.html), in Seville, offering an excellent scientific environment. The European Research Council financially supports the position for a period of 18 months.