

Post-doctoral fellowship in Epigenomics and Bioinformatics

3 years, INRAE Toulouse (France)

We are looking for a motivated candidate to apply together to an INRAE grant to obtain funding for a 3 years post-doctoral position. The exact scope of the proposal can be accommodated according to the candidate preferences.

Missions

Unravelling biological mechanisms underpinning complex traits is a common objective in various species, especially to improve the robustness of farm animals. The epigenome is now known to contribute to phenotypic variability but deciphering between genetic and non-genetic effects remains a challenge. Up-to-date sequencing technologies, such as Oxford Nanopore Technology, allow to simultaneously investigate both genetic and epigenetic variations. The successful candidate will use data from *state-of-the-art technologies using long-read sequencing* to explore non-genetic inheritance and genomic imprinting. He/She will (i) analyse putative *transgenerational epigenetic inheritance* by detecting differential methylated regions and genetic variants between two avian "epi-lines" obtained after changes in ancestor's environment (ii) characterize *genomic imprinting* in pigs by identifying imprinted loci through the analysis of reconstructed *haplotyped methylomes*. The dataset, obtained in the framework of a European project, will be available at the beginning of the position. In addition, the candidate will have opportunity to work or participate on multiple funded genomics projects.

Requirements

Required

PhD in Computational Biology (Epigenomics) or Bioinformatics
willingness to learn new technologies

Desired

expertise with third generation sequencing technologies
fluency in at least one bioinformatics scripting language
software engineering skills (versioning, code reviewing, continuous integration)
familiarity with one bioinformatics pipeline manager (i.e. Nextflow, Snakemake)

Work environment

The successful candidate will be hosted at the GenPhySE unit in Auzeville, south of Toulouse (France) in the GenEpi team (<https://genphyse.toulouse.inra.fr/groupe/genepi>). He/she will be employed by the French National Research Institute for Agriculture, Food & Environment (INRAE, ex-INRA). INRAE is a public institution with more than 10,000 agents across the French territory. INRAE is the first European agricultural research institute and produces scientific knowledge and works for economic and social innovation in the areas of food, agriculture and environment. Scientific and technical support will be provided by ourselves and our project partners in the local environment with the Genotoul Bioinformatics platform (<http://bioinfo.genotoul.fr/>) and the Get-PlaGe genomics facility (<https://get.genotoul.fr/en/>). Funding for the project is expected through an application of the successful candidate to an INRAE grant. The position is supposed to start in autumn 2020.

How to apply

Send CV and motivation letter to Julie Demars (julie.demars@inrae.fr) before the 1st of April