Position Offered: POSTDOCTORAL RESEARCHER

Project: *Authenticity, microbial quality and safety evaluation of table olives through machine learning and metataxonomic analysis*

Technological and scientific fields: Digital tools for agriculture, livestock and aquaculture.

Location: Seville, Andalusia. Instituto de la Grasa. Webpage: www.ig.csic.es

Research Group/PI: Microbial quality and safety of fermented foods. PI: Dr. Francisco Noé Arroyo López. www.ig.csic.es/interacciones-bacterias-lacticas-levaduras-en-alimentos/

PROJECT SUMMARY

Table olives are the most important fermented vegetable in Spain, especially in regions such as Andalusia and Extremadura. Its fermentation is a complex process where a large number of microbial species (lactic bacteria, yeasts, etc.) are involved depending on the type of process, variety of olive, country of origin, environmental conditions, etc. During this process, both beneficial and spoilage/pathogenic microorganisms can growth. The main objective of this research project is to develop a digital tool based on machine-learning and supervised automatic learning to improve the authenticity, microbial quality and safety of table olives based on metataxonomic profiles. For this purpose, the creation of a database that compiles all the available information on metataxonomic studies of table olives that is dispersed in repositories such as the NCBI and ENA will be carried out, as well as the inclusion and sequencing of new samples. Then, a methodology and scripts based in R will be developed to predict the origin, type of processing, and olive variety of new sequenced samples.

PROFESSIONAL PROFILE

Minimum requirements:

- PhD. in Biology, Biochemestry, Pharmacy or Food Science and Technology.

Merits to be considered:

- Previous knowledge in metataxonomic analysis.
- Previous knowledge of vegetable fermentations.
- Master in Food or Bioinformatics.
- Scientific Publications.

WHAT IS OFFERED

Use of Machine Learning techniques and Oxford Nanopore sequencer. Enrollment and training in Master of Bioinformatics Analysis. Stays in national and international centers of recognized prestige in the field.

Contract conditions:

Indefinite contract for a Postdoctoral Researcher associated to the Momentum Project of 4 years' duration according to Spanish science law. Gross annual salary (41.000 € - 52.000 €).

Start of contract: before 31 December 2024

PRINCIPAL INVESTIGATOR CONTACT

Email: Dr. Francisco Noé Arroyo López (fnoe@ig.csic.es)

Phone: +34 954 611 550 ext 431059.

momentum@csic.es | https://momentum.csic.es/

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