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Marketing products of higher quality, following sustainable practices resulting in higher profitability are issues of great concern in Aquaculture. Methods that are suitable for on-line, real-time seafood quality assessment which are also rapid and non-invasive could contribute to the upgrade of this sector.

In this context, AUA's team (Lab of Microbiology and Biotechnology of Foods), represented by Dr. Anastasia Lytou was happy to participate in **Metabolomics 2022 conference held in Valencia, 19-23 of June.**

During the "Foodomics" session, we had the opportunity to present a part of our work performed in the framework of DiTECT project relevant with the application of FT-IR spectroscopy in tandem with machine learning for the microbiological quality assessment and discrimination of various types of mussels.



A significant number of mussel samples (fresh with and without the shell, frozen/thawed) of different species and different geographical origin (Greek and Spanish) were microbiologically and spectroscopically analyzed, while different machine learning models were generated and validated to assess the correlation between FTIR and microbiological data as well as to discriminate the samples based on geographical origin and form (fresh with and without the shell and frozen/thawed).

The initial findings of this study indicate that the combination of machine learning with FT-IR spectroscopy could be effectively used to estimate microbial population and ensure authenticity in mussels.

