

# 5<sup>th</sup> World Congress on **Bioavailability and Bioequivalence** Pharmaceutical R&D Summit

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## Applied infrared spectroscopy FTIR for characterization and analytical study of food and pharmaceutical products

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The ability to identify the raw materials in foods is especially important for products awarded the designation of protected origin (PDO) status since these awards recognize the use of selected plant varieties and animal breeds, and therefore, protect against fraud. FTIR data have been often treated with multivariate analytic techniques to develop methods of classification and characterization through the building of relative models. This approach has demonstrated to be very useful in many applications, due the ability in achieving the spectral resolution of the FTIR signal. FTIR spectroscopy, combined with discriminate analysis, has been applied to classify and study adulterated olive oils, argan oil and all food products. Partial least squares discriminate analysis (PLS-DA) was performed to elaborate the measurement data and assess the discriminate features of the four cultivars. The PLS mod was optimized by applying the Martens' uncertainty test which provided to select the vibrational frequencies giving the most useful information. The optimized model resulted able to separate the classes and classify new objects into the appropriate defined classes with a good percentage prediction. The technique FTIR seems very promising and provides a solution for the food and pharmaceutical industry in the future.

### Biography

Abdelkhalek Oussama has completed his PhD in 20 years ago from Casablanca University and is now Professor in Sciences and Techniques Faculty of Beni Mellal. He is the Director of Spectrochemistry and Environment Laboratory in Sultan M. Slimane University. He has published more than 40 papers in reputed journals and has been serving as an Editorial Board Member of repute and a reviewer in 4 international journals. Currently, he is the President of Moroccan Chemometric Society.

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