SPECC offers a MsC project in characterization of Andalusian vinegars (Spain) with Protected Designation of Origin (P.D.O.) by using different spectroscopic methods and advanced multivariate data analysis.

**Topic of the Master project:**

The diversity of wine vinegars of different quality in the market and the increasing demand of them make necessary the establishment of quality control parameters that assess their ageing and their origin (P.D.O.). Chemical characterization of wine vinegar has been traditionally done by using chromatographic methods. These methods are laborious, destructive and expensive. Therefore, a reliable analytical method is strongly demanded that complies with being fast, inexpensive and non-destructive for immediate characterization of the vinegars before arriving to the final consumer.

With this aim, SPECC, in collaboration with the University of Seville, Spain, proposes the use of spectroscopic methods together with advanced data analysis to generate statistical tools that allow the assessment of the origin and ageing of Spanish vinegars.

**The MsC project comprises:**

- Sessions in the laboratory to measure the spectra of the vinegars: ATR-Infrared, Near Infrared and multidimensional fluorescence will be tested (1 month).

- Sessions developing chemometric models to classify the vinegars according to their different ageing and precedence: Principal Component Analysis, PARAFAC and PLS-DA models will be tested.

- This MsC project is part of a collaborative project between the University of Seville and the University of Copenhagen. Therefore, it is expected that the MsC student will present the results in both the Department of Food Sciences of the University of Copenhagen and the University of Seville, Spain.

**Requirements of the student:**

- Skills in MATLAB language are needed

- Knowledge of basic chemometrics is needed

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<th>Start: 1st of November, 2014</th>
<th>Duration: 6 - 9 months</th>
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<tr>
<td><strong>Supervisors:</strong> Dr. José Manuel Amigo (SPECC), Dr. Raquel Callejón (Seville) and Dr. Diego L García (Seville)</td>
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