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## ***Teach Mob – Visiting Professors*** ***Academic year 2014/2015***

<b>2nd term</b>
<b>COURSE TITLE</b> Fermentation microflora and territorial characterization
<b>Scientific area</b> Agricultural Microbiology
<b>Department of Agricultural, Forest and Food Sciences and Technologies</b>
<b>Language used to teach</b> English
<b>Course summary</b> The importance of the microbial factor in the wine fermentations is well documented. Based on new approaches that can be applied for the study of the microbiota during fermentations, the wine sector is discovering new possibilities to improve and standardize its products, employing the natural microbial biodiversity, often linked to the territory and associated to grapes and musts. Students will comprehend the importance of microbial biodiversity and its trademark on the final product. They will acquire knowledge in order to monitor the development of microbial populations during fermentation, to intervene and guide these populations, with the final purpose of obtaining products with desired characteristics.
<b>Learning objectives</b>  The teaching objective of the course is to provide to the student necessary knowledge that will allow: <ul style="list-style-type: none"><li>• the study of microbial ecology during fermentations for the production of various types of wines;</li><li>• the use of new methods, based on molecular biology, for the identification and characterization of strains of interest to the wine sector and for the study of their behavior during fermentation for wine production;</li><li>• the development of starter of territorial origin.</li></ul>
<b>Lab activities</b> Lab activities within this class have the purpose of familiarizing students with certain molecular biology based techniques that aim at accurately describing the microbial ecology of wine related matrices. The core activities are: DNA extraction, PCR amplification, creation of a genomic library from DNA directly extracted from grapes, denaturing gradient gel electrophoresis on samples of grapes, musts, wines and on yeast isolates.

**Visiting Professor Profile**

The candidate should demonstrate in depth knowledge of microbial ecology of grapes, musts and wine fermentation processes. Scientific evidences, such as publications in international journals with impact factor, participation to specialized conferences, meetings and symposia are desired. Furthermore, teaching activities in the field of wine microbiology, both at academic settings and in supportive actions for the wine industry are required.

**Contact person at the Department**

Professor KALLIOPI RANTSIOU

Email [kalliopi.rantsiou@unito.it](mailto:kalliopi.rantsiou@unito.it)