

Unite proposal for Ag-Lab project (9-13th April)

Monday 9th : Morning: meeting at the University, presentation of the University, faculty of Biosciences visit of the labs. Afternoon: training (see list of topics)

Tuesday 10th : Training at the University (all day; see list of topics)

Wednesday 11th : Visit at the Istituto Zooprofilattico Sperimentale of Teramo (official national lab for detection of contaminants, biohazards and veterinary inspections)

Thursday 12th : Training at the University (all day; see list of topics)

Friday 13th : visit of 1-2 food companies in the area (to be contacted)

Food Technology: list of topics for training

1. Homogenization and food dispersions: basic principles, concepts and techniques of emulsion science & technology (2 hours theory + 2/3 hours lab) – Dr. Di Mattia
2. Use of vacuum impregnation for food stabilization and enrichment of functional compounds (plants food and meat): basic principles, concepts and techniques, comparison with traditional techniques (2 hours theory + 6 hours lab) – Dr. Neri, Dr. Martuscelli
3. Accuracy improvement in sensory analysis: comparison among ranking, intensity scoring, and intensity scoring with a posteriori data normalization. The case of chocolate (1 hour theory + 3/4 hours lab) – Prof. Sacchetti
4. Wheat grinding: basic principles, measurement of grinding fractions and calculation of particle size distribution of flours by different mathematical models (2 hours theory and 2/3 hours lab) – Prof. Sacchetti
5. Antioxidant capacity assays: classical vs. nanomaterial based methods. Measurement of phenolic content of foods via Folin, ABTS, gold and silver nanoparticles based assays; amperometric detection and AOC assay. (1/2 hours theory + 2 hours lab) Prof. Del Carlo, Dr. Della Pelle
6. Detection of phenolic compounds in food using chromatography. Extraction and detection of phenolic compounds from different food matrices via HPLC and via UPLC-MS-MS; effect of extraction procedure and detection of the major compounds (2 hours theory + 2 hours lab) Prof. Sergi
7. Microextraction based procedures for the detection of pesticides. Detection of pesticides in different food matrices using microextraction procedures, detection via UPLC-MS-MS. (2 hours theory + 2 hours lab) Prof. Sergi