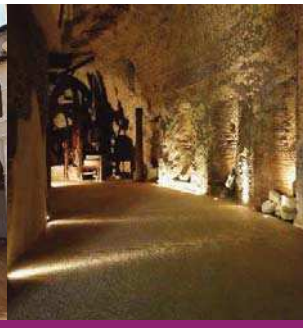
ORGANIZED BY:







June 30th - July 4th, 2013 Bevagna, Italy

VIII Colloquium Chemometricum Mediterraneum

...dubito, ergo indago...

OPENING LECTURE

Memories of a resting Professor
Prof.**Michele Forina**

KEYNOTE LECTURES

Data fusion in food authentication
Prof. **Ricard Boqué** (University of Tarragona)

Improvingspatialresolution of hyperspectralimages: the super-resolution concept
Prof. **Ludovic Duponchel** (University of Lille)

Analysis of chemical data from a compositional point of view
Prof. **Peter Filzmoser** (Technical University of Vienna)

Spectroscopy coupled to chemometricsfor vineyards and grapes quality intensive mapping
Dr. **João Almeida Lopes** (University of Porto)

Applications of chemometrics in drug design
Dr. **Orazio Nicolotti** (University of Bari)

Data transformation methods
Prof. **Beata Walczak** (University of Silesia)

TOPICS

Pattern Recognition and Calibration
Experimental Design (DOE) and System Optimization
Qualimetricsand Chemical Metrology
QSAR/QSPR
Image Analysis
Process Analytical Technology (PAT)
Applications of Chemometrics

SPOSORED BY:

STATISTICAL METHODS FOR IMPROVING AUTHENTICATION OF WINES BASED ON STABLE ISOTOPE RATIOS

N. Dordevic[a], F. Camin[a], G. J. Postma[b], L. M. C. Buydens[b], R. Wehrens[a]

[a]Fondazione Edmund Mach, Research and Innovation Centre, via Mach 1, 38010 San Michele all'Adige (TN), Italy

[b]Radboud University Nijmegen, Institute for Molecules and Materials, Analytical Chemistry, P.O. Box 9010, 6500 GL Nijmegen, The Netherlands

E-mail (nikola.dordevic@fmach.it)

Wine derives its economic value partly from its geographical origin and production technologies. Authenticity evaluation involves a check of several features like declaration of origin, year of vintage, and also the evaluation of any addition of unpermitted substances during the production process like water and sugar.

In Italy, at least 400 reference samples (collecting a particular number of samples from every region) every year are used to build the isotope ratio databank ($(D/H)_1$, $(D/H)_2$, R, $\delta^{18}O$, $\delta^{13}C$).

In this work, we evaluate several methods based on this unique data repository for checking authenticity claims (wine origin, detection of unpermitted sugar and water addition). The results show that using multivariate methods false claims of origin as well as unpermitted sugar and water addition can be discovered much easier [1].

References

[1] Dordevic N, Wehrens R, Postma GJ, Buydens LMC and Camin F (**2012**) Statistical methods for improving verification of claims of origin for Italian wines based on stable isotope ratios. *Analytica Chimica Acta* **757**, 19-25.