



Preface and Acknowledgements of CMA4CH 2010 Meeting

Dear colleagues and friends welcome to the third Mediterraneum Meeting devoted to the important contribute of the advanced statistical methods to the oldest research field “Environment” and “Cultural Heritage”.

I want repeat the period: The world is multivariate! In order to be significant, data coming from diagnostic on Environment as well as on Cultural Heritage must be multivariate [1].

Environment and Cultural Heritage

must be considered as two systems crossing each other. Really, the first heavily influences the conservation state of the second and, as a consequence, the second can be an indicator of the quality of the first. Any cultural find tells its history and all those related to its contact with the environment and mankind; so, even if it is important to maintain some marks left by the past, in order to left the original message of the author at the best for future generation, new marks have to be avoided. Vandals actions and marks from the environment pollution, unfortunately actual, cannot be considered a good history of our time to tell and surely negatively affects the conservation of Cultural Heritage artifacts; so, the goal of our generation is to block the bad trend involving Environment and Cultural Heritage degradation.

Multivariate analysis and chemometry

became more and more important in understanding mechanisms of degrade for both Environment and Cultural Heritage. Really a huge mole of data comes from researches on these two fields; in both the cases the starting step is the knowledge of the constituting materials, or composition of the environment sector, and degradation products or pollutants; the ending step is a data evaluation really useful to establish the best conservation conditions. A data treatment by univariate methods is surely time consuming and need lot of experience and ability; on the contrary a correct multivariate method applied to “good data” can furnish a quicker and really useful information. Why I pinpoint “good data”? The technological continuous improvement, especially of software coupled to the scientific instruments, is surely of help for researchers but, in some case, can be source of “number” and not “data” due to the excessive trust for the instrument itself, no complete knowledge of it and/or of the theory on which the adopted technique rely; in such cases, no univariate nor multivariate treatment can give useful information.

As in the previous editions our/your biannual Meeting is dedicated to theorists, researchers, professors, experts, technicians, which use multivariate techniques in order to improve the knowledge of the environment and of the cultural artifacts. Every analytical technique/method is welcome if it is used in multivariate way in order to improve the knowledge of the cultural entity and of the living environment.

Principal Components 1 of the conference is to favour the meeting of researchers, experts, connoisseurs and competents on chemometrics applied to Environment (environmetrics [2]) and Cultural Heritage (cultherimetrics [3]) so I suggest all the participants to read careful presentation looking for cooperation in international projects. Researchers using univariate methods or theoretical chemometricians are welcome as surely looking for cooperation; may be the last look for juicy dataset and the first will be happy to avoid the very hard data evaluation of

their data. Don't forget that chemometry is today "under" any standard research, calibration, regression and data analysis, so, put some questions to yourself.

What is chemometrics?

Am I doing multivariate analysis? Am I using chemometry without knowing that I am using it? The index of the last book (Handbook of Chemometrics and Qualimetrics, Vol1 and Vol2) of the lamented Prof. D.L. Massart is often used as list, neither exhaustive, of what today the researchers intends for chemometrics [4].

If you will find replies to your queries or the Meeting contacts will bring you some idea for new researches, we hope you will tell us them in the next edition on 2012.

Acknowledgements

First of all I (fig. 1) want thank all the authors for their great patient in follow the rules for the Meeting's Abstract Form as well as for the prompt replies to the Referee's questions.

This allows us to obtain a very homogeneous "Abstract Book" and, we hope, of high scientific content. A two pages abstract was chosen as suitable for an enough extensive description of the research, useful for present and future readers.

A very warm thank is due to Referees, especially to PhD Federico Marini, for the heavy and under pressing work. It is usual to receive abstracts all on deadline or very close to it!

A special tank has to be done to the Organizing Committee, mainly young researchers, for their contribute aiming a successful result of the present Conference. In particular Dr Andrea Masotti that was involved in "look a journal for special issue".

Last, but not for importance, I warmly thank the Scientific Committee's members that spent some of their time, stealing it from the didactic and research activities, for the engagement aiming to attain a full success of the Conference. In particular Prof. Richard Brereton give a big contribute looking for "prizes" and help with Journal(s) contacts.

And I can not cite PhD Mariapia Sammartino, without non one edition can be done, thanks.

I will wait for all of you and lot of your friends and colleagues in the next Meeting that will be held in the beautiful Roma, surely the richest Occidental city of Cultural Heritage on the end of May 2012.



Fig. 1; The Coordinator, Dr. Giovanni Visco, Appointed Professor for Chemometrics at Rome University

References

- 1) Donald D. Hester, Book Reviews of: Irwin Friend, James R. Longstreet, Morris Mendelson, Ervin Miller, Arleigh P. Hess Jr; Investment Banking and the New Issues Market, *The American Economic Review*, 58(4) (1968), 1023-1024
- 2) The term 'environmetrics' was first introduced in 1971 by Philip Cox in a proposal. submitted to the US National Science Foundation, S. Hunter, Environmetrics: An Emerging Science, in *Environmental Statistics*, G.P. Patil, C.R. Rao Ed. (1994) ISBN: 978-0-444-89803-6
- 3) G. Visco, Preface of M.J. special issue, *Microchem. J.*, 88(2) (2008) 95-96
- 4) G. Visco, What lies behind the Chemometry name?, <http://w3.uniroma1.it/chemo/metrics/chemom/mslide2.html> and <http://w3.uniroma1.it/chemo/metrics/chemom/mslide3.html> accessed at sept. 2010