

A. Rouhollahi, E. Babaee, S. Aghajani; Quantitative Structure Activity Relationship Modeling of Environmentally Important Diphenyl-Ether Herbicides Using MLR and PLS

M.P. Sammartino; Do CEE's Directives Really Compliance with the Kyoto Protocol? A Case Study: Fuel Consumption of one Toyota's "Little Genius"

M. Tomassetti, P. Ciancio Rossetto, T. Gatta, R. Grosi, G. Visco, L. Campanella; Applications of Instrumental Analysis and Chemometrics to Old Roman Mortars and Stuccoes

M.J. Trindade, F. Rocha, M.I. Dias; Geochemistry and Mineralogy of Clays from the Algarve Basin, Portugal: Contribution of Multivariate Analysis to Paleoenvironmental Studies

Meeting Program CMA4CH

**2nd International Symposium on
Multivariate Analysis and Chemometry for
Cultural Heritage and Environment,**



**Ventotene (LT), Italy, Europe,
1-4 June 2008**



Sunday 1 June 2008

19.00-21.00 *Meeting Opening: welcome party, registration*

Monday 2 June 2008

8.00-9.00 *Registration*

9.00-9.20 *Welcome from Major of Ventotene, Dr. Giuseppe Assenso;
Meeting Introduction, Dr. Giovanni Visco*

9.20-10.00 **Opening Lecture**

A. Zarattini: Ventotene: One of the Most Beautiful Southern Pontine Islands

10.00- **Cultural Heritage Session; Chairman: R.G. Brereton**

10.00-10.25 **M.I. Prudêncio**, M. I. Dias; The Roman Ceramics Industries in the Sado Basin, Portugal: Multivariate Analysis and Geochemical Fingerprinting the Production Centers

10.25-10.50 **A. Daveri**, G. Verri, F. Rosi, C. Miliani, P. Benedetti, F. Piqué; Principal Component Analysis of Reflectance Medium Infrared Spectra for the Non-Invasive Identification of Organic Materials in Wall Paintings

10.50-11.15 **P.L. Cosentino**, P. Capizzi, G. Fiandaca, R. Martorana, P. Messina, I. Razo Amoroz; Identification of Precious Artefacts and Stones: The Sonic Imprint

11.15-11.30 *coffee break*

11.30- **Chemometrics Session; Chairman: M.I. Prudêncio**

11.30-12.10 **Lecture**

F. Marini: Classification Methods in Chemometrics

12.10-12.35 **R.G. Brereton**, B. Vaux, L. Zhu; Application of Chemometrics Approaches to Dialect Data and the Tracing of Mobility of Humans in North America

POSTER

E. Andriani, M. Caselli, G. de Gennaro, P. Ielpo, B.E. Daresta, P. Fermo, A. Genga, A. Piazzalunga, M. Placentino; Application of CMB Model to PM10 Data Collected in a Site of South Italy: Preliminary Results and Comparison with APCS Model

F. Bellanti, **M. Castrucci**, G. Visco, L. Campanella; Comparison of Catalytic Efficiency of Some Industrial Nanosized Titanium Dioxides in Heterogeneous Photodegradation by Chemometric Analysis

K.R. Brown, S.S. Fong, **G.R. Lloyd**, B.M.L. Clarkson, R.G. Brereton; Pattern Recognition of Morphological Measurements on Modern and Ancient Humans

J.M. González-Sáiz, N. Pérez-del-Notario, C. Sáenz-González, C. Pizarro; A Chemometrics Approach to Fit Past and Present Production in the Banda Area (Ghana)

A. Kachbi, M. Benamor, N. Aguerssif; Simultaneous Spectrometric Determination of Co^{2+} and Ni^{2+} in Polimineral Drug Using Multivariate Calibration

G. Ortaggi, A. Giuliano, A. Masotti; Heavy Metals Removal from Wastewater Using a Versatile Branched Polymer: Carboxylated Polyethylenimine (PEI-COOH)

C. Pizarro, S. Rodríguez-Tecedor, N. Pérez-del-Notario, J.M. González-Sáiz; Usefulness of Chemometrics to Classify Pottery Sherds Belonging to the Southeast of the United States

S.H. Plattner, L. Campanella, M. Marabelli; Simple Signal Processing of Linear Voltammetric Data With MatLab©: Interpolation Function for Lacking data and Filtering (Smoothing)

- 10.05-10.30 **G. Doğan**, G. Güllü, D. Karakaş, G. Tuncel; Comparison of Source Regions of Major Anthropogenic Compounds at the Two Coastal Regions of Turkey
- 10.30-10.55 **J.B. Ghasemi**, A. Abdolmaleki, S. Ghasemi; A QSPR for Prediction of Solubilization of Hazardous Compounds Using GA-based MLR in CTAB Micellar Media
- 10.55-11.20 M. Caselli, **L. Trizio**, G. de Gennaro, P. Ielpo; PM10 Forecasting by a Feed Forward Neural Network and Comparison with Multivariate Linear Regression Model
- 11.20-11.35 *coffee break*
- 11.35-** **Cultural Heritage Session; Chairman: G.E. Gigante**
- 11.35-12.00 **G. Visco**, S. Ridolfi, G.E. Gigante; Razors, Horse Bits or Axes; Search of Different Composition in Common Use Bronze Villanovan Objects (VIII-VII century b.C., Italy) by Multivariate Analysis
- 12.00-12.25 **V. Virgili**, A. Carraro, D. Ferro; Cluster Analysis: a Precious Tool for Study Antique and Etruscan Jewellery from Castellani Collection
- 12.25-12.50 **A. Masi**, L. Sadori; Statistical Approach to Archaeobotanical Data
- 12.50-13.00 *Meeting closing: thanks, next Meeting announcements*
- 13.00 *lunch*
- 12.35-13.00 **A. Kachbi**, M. Benamor, N. Aguerssif; Application of SIMPLS Algorithm for Simultaneous Determination of Co(II), Ni(II) and Cu(II) in Industrial Alloys
- 13.00-15.00 *lunch*
- 15.00-** **Cultural Heritage Session; Chairman: C. Botrè**
- 15.00-15.25 **S.S. Fong**, L.J.E. Cramp, R.G. Brereton; Use of Pattern Recognition for the Organic Residue Analysis by Gas Chromatography Mass Spectrometry of Mortaria and Other Roman Cooking Vessels from Romano-Britain
- 15.25-15.50 **M.I. Dias**; Absolute Dating of Cultural Finds. Properties, Problems and Uncertainties of Luminescence Methods
- 15.50-16.15 **A. Gorassini**, P. Calvini, A. Baldin; Fourier Transform Infrared Spectroscopy (FTIR) Analysis of Historic Paper Documents as a Preliminary Step for Chemometrical Analysis
- 16.15-16.40 **A. Baci**, Z. Moldovan, I. Bratu, O.F. Măruțoiu, I. Kacsó, A. Hernanz, C. Măruțoiu, The Comparative Study of the Painting Materials of a Series of Orthodox Icons on Wooden and Glass Support from Transylvania
- 16.40-16.55 *coffee break*
- 16.55-** **Cultural Heritage Session; Chairman: G. Ortaggi**
- 16.55-17.20 **M. P. Sammartino**, S. Leonardi, G. Visco; New Analytical Procedure for a Non Invasive Analysis of Soluble Salts in Frescos Using a Statistical Sampling Method
- 17.20-17.45 **G.E. Gigante**, S. Ridolfi; The Bronze Plates of Golden Globe on Saint Peter Dome in Rome; Comparison of Alloy Composition Using in situ X-Ray Fluorescence
- 17.45- *Social Program: Visit at the Ventotene "Archaeological Museumi"*

Tuesday 3 June 2008

9.00- Cultural Heritage Session; Chairman: F. Marini

9.00-9.40 *Lecture*

R. G. Brereton: *Application of Modern Supervised Pattern Recognition Methods in Chemometrics*

9.40-10.05 C. Pizarro, **C. Sáenz González**, S. Rodríguez-Tecedor, J.M. González-Sáiz; Feature Selection Applied to Study the Source of the Stone Used to Build a French Cathedral

10.05-10.30 **T. Gatta**, L. Campanella, P. Flamini, M.P. Sammartino, M. Tomassetti; A Physical and Chemical Multi-Method Approach to Study and Characterise Fragments of Renaissance Pottery

10.30-10.55 **C. Botrè**, D. Ferro; Evaluation of Differences Among Struck, Fused and Press-fused Ancient Roman Coins, Investigated by Means of Scanning Electron Microscopy and Microanalysis in the Light of an Irreversible Thermodynamics Approach

10.55-11.20 **S. Duchêne**, R. Bruder, J.B. Sirven, V. Detalle; Chemometrics and Laser Induced Breakdown Spectroscopy (LIBS) Analysis for Identification of Wall Paintings Pigments

11.20-11.35 *coffee break*

11.35- Environment Session; Chairman: J.B. Ghasemi

11.35-12.00 **A. Pietrodangelo**, S. Canepari, C. Perrino; Selection of Appropriate Tracers for the Source Identification of Airborne Particulate Matter by Fisher Weight and Factor Analysis

12.00-12.25 **W. Kosmus**, J. Adlmanseder; Chemometry Helps Visualizing Air Pollution

12.25-12.50 **L. Campanella**; Sustainability and Thermodynamics

12.50-15.00 *lunch*

15.00- Cultural Heritage Session; Chairman: L. Campanella

15.00-15.25 **S. Ridolfi**; Microclimatic Monitoring of the Sansevero Chapel in Naples: Multivariate Analysis of the Physical and Chemical Data

15.25-15.50 **M. Laurenzi Tabasso**, A. Macchia, A.M. Salvi, M.P. Sammartino; Chromatic 'Alterations' on Stone Surfaces in Contact with Bronze or Copper Monuments: Spectroscopic Characterization and Statistic Analyses

15.50-16.15 **C. Tropea**, M.P. Sammartino, G. Visco; Preliminary Study to Set Up a non Destructive in Situ Method to Monitor Soluble Salts Content in Stone Materials; the Usefulness of a Multivariate Approach

Poster Session

16.15-17.15 **Short oral presentations; Chairman: W. Kosmus**

17.15-17.45 **Poster reading**

17.45-18.15 *Prize Party*

18.15- *Social Program: Visit at the Ventotene "Cisterne Romane"*

21.00 **Social Dinner**

Wednesday 4 June 2008

9.00- Environment Session; Chairman: W. Kosmus

9.00-9.40 *Lecture*

L. Campanella: *The Chemical Approach to the Assessment of the State of the Environment and Ecosystem, Included Man-Kind and Cultural Heritage*

9.40-10.05 **P. Avino**, G. Capannesi, A. Rosada; Multivariate Analysis Applied to Trace and Ultra-trace Elements in Italian Potable Waters Determined by INAA