Course synopsis

The amount and diversity of data generated by art&conservation researchers is steadily increasing over the past decades, reaching a situation where more efficient tools for information management and analysis are critical. Chemometrics offer a real and very powerful way of approaching the problem of data interpretation and generation of reliable analysis by moving away of the traditional approaches towards a data-driven approach, where information is extracted directly from data and used to formulate models that can describe sample features and establish relations. **The Chemometrics Approach** course offers to art&conservation researchers an especially designed basic training on fundamentals of chemometrics. The course is divided in different modules (theoretical, practical and individual tutoring sessions). Fundamentals are conveyed using concepts and practical examples, keeping the mathematical burden reduced to a minimum. Examples covering exploratory data analysis of materials and works of art, authenticity assessment, materials identification and quantification will serve as the basis for methods demonstration. It is expected that participants be able to understand the basic fundaments of chemometric methods such as data processing tools, hierarchical analysis, principal component analysis and partial least squares regression.

These basic chemometric tools will allow participants to implement data analysis strategies on their own data. Participants will learn and test methods on freeware chemometric software which they can freely use after the course.