

Fundamentals of the Conservation of Photographs

SESSION: Introduction to Infrared Spectrometry

INSTRUCTOR: Dusan Stulik

SESSION OUTLINE

ABSTRACT

Theoretical introduction to Fourier Transform Infra Red (FTIR) spectrometry and its applications in art conservation, conservation science and the identification of photographs.

LEARNING OBJECTIVES

As a result of this session, participants should be able to:

- Understand basic principles of FTIR spectrometry
- Understand sample preparation and manipulation
- Understand limitations of FTIR analysis
- Master basic interpretation of IR spectra for photographs and materials used in photograph conservation practice

CONTENT OUTLINE

- Lectures and demonstrations covering:
 - o Problem of analysis of organic materials
 - Methods of organic analysis
 - History and techniques of FTIR analysis
 - o Advantages and disadvantages and limitations of the FTIR analysis
 - o Identification of single components
 - o Identification of complex mixtures of materials
 - o Thin film analysis
 - Analysis of multilayer material
 - o Identification of organic media, substrates and coatings of photographs
 - o Identification of dyes and pigments of tinted and painted photographs
 - o Application and problems of the quantitative FTIR analysis



SESSION OUTLINE CONT'D.

• Practical laboratory training of application of FTIR spectrometry in identification of photographs (hands on experiments and training in interpretation of infrared spectra)

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