SESSION OUTLINE

ABSTRACT
The session will introduce the range and scope of direct and indirect nondestructive evaluation tools and techniques for the assessment of stone and masonry building and sculpture. Explanations will be given about the degree of overlap and limitations of the methods described. Ethical, technical and economic issues will be explored.

OBJECTIVES
- to be aware of the range and scope of nondestructive diagnostic techniques available to help determine the state and condition of masonry buildings, sculpture and stonework;
- to gain an awareness of the physics behind the remote sensing and nondestructive equipment;
- to understand the ethical, technical, logistical and economic ramifications of using nondestructive diagnostics techniques and
- to understand the overlapping complementary nature of direct and indirect techniques, and the limitations of the technology.

CONTENT OUTLINE
Direct tools
- endoscopy
- RILEM tube water absorption
- Crack tell-tales

Indirect tools
- ultra sound
- pulse radar
- impact echo
- magnetometry
- pachometry
- radiography (LINAC and radio-isotope)
- resistance, capacitance and dielectric constant moisture meters
- Acetylene gas/carbide reaction “Speedy” moisture meter
- Linear Variable Differential Transducers and other monitoring devices
- Infrared camera
- Thermography
SESSION OUTLINE CONT’D

READINGS

= Essential reading material
= Available online

BIBLIOGRAPHY: Introduction and Scope


OTHER RESOURCES

American Society for Nondestructive Testing (www.asnt.org)

European Commission Research Directorate Environment and other programs on Cultural Heritage http://ec.europa.eu/culture

ICOM-CC (International Council on Museums-Conservation Committee) www.icom-cc.org Scientific Research Working Group on NDE.


BIBLIOGRAPHY: Moisture Measurement


SESSION OUTLINE CONT’D

RESOURCES FOR MOISTURE MEASUREMENT


AASHTO T217 Determination of Moisture by Means of Calcium Carbide Gas Pressure Moisture Tester (Speedy).