LIGHTS ON cultural heritage and museums!
20 - 22.07.2015
FLUP, Porto

Workshop - Ref.: W.6
Topic of the Congress: 5. Scientific examination of heritage and analytical applications using different radiation | 8. Integrated risk management. Preventive conservation.

Microfading Testing: A tool for Informed Policy Development and Materials Testing

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Abstract: Microfading testing (MFT) is a technique to rapidly and directly evaluate the lightfastness of a heritage object in a particular environment. This information can be used to develop display and lighting policies tailored for an object.

MFT was developed by Paul Whitmore in the mid-1990s and received immediate interest from the conservation community with regard to method development. During the last 10 years emphasis has shifted from method development to development and characterization of the instrumentation. In the intervening years there has been a proliferation of instrument designs with the retro-reflective probe head design becoming quite common. Other researchers have focused on issues of reciprocity and its failure as well as means to ensure light source stability and thereby more reproducible measurements. After ca 20 years the technique is mature with methods developed for a broad range of materials, nearly, but not quite, the entire breadth of museum collections.

Despite the promise of the technique and the widespread interest, it is not widely adopted by heritage institutions. A possible explanation is that MFT is targeted at experienced users, i.e. the instruments are not terribly user friendly both in terms of hardware and software. Converting the MFT from a researcher's tool into a 'plug n play' collection survey tool has been the focus of several year's research and development at Jagiellonian University and collaborating institutions.

This workshop will briefly present the history and technology of MFT to date followed by demonstrations of instrument characterization, operation and data interpretation. The new fully automated MFT will also be presented as a possible survey tool. The workshop will use hands on, guided case study format to present the instrumentation and its application to attendees with a goal to increase their awareness of MFT and the possibilities of using it in their decision making process.

Keywords: Microfading Testing (MFT); Photodegradation; Lighting Policy; Preventive Conservation; Automated Testing

BIO NOTES

Jacob Thomas | jacob.thomas@conservation.gu.se

Jacob Thomas, PhD, Sustainable Heritage, is a research assistant professor in conservation science at the University of Gothenburg, Department of Conservation. He is also Co-director of Townshend and Thomas LLP, a small conservation consultancy company specialised in microfading testing and oxygen-free frames.

Jacob has worked as a conservation scientist at Tate, the National Museum in Krakow, Jagiellonian University, and his doctorate in sustainable heritage is from the University College London Institute for Sustainable Heritage.

Jacob's research interests are eclectic and include: heritage materials science and the degradation of materials in different environments (e.g. anoxia and perennial snow patches); technical study and reconstruction of craft/(folk) art materials, objects and traditions; heritage conservation as a means for cultural reconciliation; mass spectrometry; and the development of scientific instrumentation and novel materials for heritage preservation.

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Tomasz Łojewski, PhD, chemist, head of the Paper Degradation Laboratory at the Faculty of Chemistry, Jagiellonian University in Krakow, Poland; senior lecturer at the Academy of Fine Art, Krakow, Poland. Organizer of the two semester post-graduate course for conservators: *Modern analytical techniques in heritage conservation*.

Research interests: application of analytical methods to cultural heritage materials, methodology of accelerated ageing, paper and silk degradation studies. Recent projects: method development of cold-plasma disinfection of archival records; hyperspectral imaging in CH studies; new instrumentation for microfading tests (MFT). In the past, several different designs of MFTs have been built in my laboratory. Together with Jacob Thomas and Instytut Fotonowy, a Krakow company specializing in prototyping research instruments, a new MFT was designed and constructed with characteristics adapted to specific needs of heritage conservators. This new MFT would be used during the workshop.

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BRIEF AGENDA

	22.07.2015	Place
10:00 – 12:30	. MFT brief history . Fundamentals of Instrumentation . Application field	FLUP Room 202 2nd Floor
14:30 – 17:00	. Play time. Demo and practical session. Rotative groups - MFT of textiles - MFT of paper and inks - MFT and anoxia and 3D objects	FLUP Room 202 2nd Floor

NUMBER OF PARTICIPANTS

Minimum 5, maximum 15.

INDICATIONS TO PARTICIPANTS

Participants are invited to bring their own laptops and objects for analysis.