

Project 'Establishing standards for allowable microclimatic variations for polychrome wood'

March 1, 2007 – April 30, 2010



The project is supported by a grant from Iceland, Liechtenstein and Norway through the European Economy Area Financial Mechanism.

Participants

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Our consultants

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Museum Conservation Institute,
The Smithsonian Institution

Stefan Michalski
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Our institute

- a medium–size public research unit
- field of activity - physical chemistry of interfacial phenomena
- since 1986 research on cultural heritage

in broad international cooperation including
7 projects within the European Commission
Framework Programmes

Detailed research areas:

- non-destructive monitoring of physical response of materials
- moisture sorption and transport in historic materials
- microclimate monitoring in historic buildings especially impact of heating systems
- numerical modelling of environmentally induced stress
- acoustic emission, laser interferometry, thermography

We collaborated with experts of NIKU before

conservation of
paintings in the Debno
church, World Heritage
Site, 2000

FRIENDLY HEATING
- comfortable to people
and compatible with
conservation of art
works preserved in
churches, EC 5FP
project, 2002-2005



Project tasks

1. Laboratory work to establish allowable climate variations for polychrome wood by **direct tracing** paint layer damage using laser interferometry and computer modeling (months **1-24**)
2. Monitoring the altarpiece in the church in Hedalen, Norway and panel paintings in the National Museum in Krakow, to trace possible development of damage in the paint layers (months **25-33**)

Project tasks

3. Dissemination of project's results (months 34-37):

- publications
- an international workshop in Oslo, a joint event with NIKU and COST Action IE0601
- a national workshop in Warsaw (mainly on heating churches)
- preparation of guidelines on optimum preservation of polychrome wood

Publications

1. R. Kozłowski, L. Bratasz, L. Lasyk, and M. Lukomski, „Allowable microclimatic variations for painted wood: direct tracing of damage development”, Proceedings of the Symposium "Facing the Challenges of Panel Paintings Conservation: Trends, Treatments and Training,, eds. A.S. Chui, A. Phoenix, Getty Conservation Institute, Los Angeles, available on line in 2010.
2. L. Lasyk, M. Lukomski, T. M. Olstad, and A. Haugen, „Electronic Speckle Pattern Interferometry (ESPI) for the condition surveys of painted wood: monitoring the altarpiece in the church in Hedalen, Norway”, submitted to *Studies in Conservation*
3. L. Lasyk, M. Lukomski, and L. Bratasz, „Simple ESPI for the investigation of art objects”, submitted to *American Journal of Physics*
4. in preparation „Allowable variations of RH for painted wood”

All manuscripts, posters or conference presentations are available at our website www.heritage-science.pl