Training School Germolles Team 1

TESTING EASY ACCESSIBLE SPATIAL AND SPECTRAL IMAGING TECHNIQUES

6-8 APRIL 2016
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Goals

- **Why**
  - Condition assessment
  - Documentation of earlier conservation treatments
  - Material analyses (original and restoration ones)

- **How**
  - Investigation with non-invasive methods
  - Optimizing of analytical methods for cultural heritage from engineers

- **Remarks**
  - Strategy/approach: from large to small scale
  - Preparation: gear, organisation
  - Experienced operator (non-expert)
  - Multidisciplinary contribution /Motivation
Methods

- Photogrammetry
  - Global view
  - Different scales
  - Reference frame for further investigations
  - Monitoring tool

- Technical Photography
  - Optical behaviour of the surfaces
  - Method of mapping
  - Sequence of the paint layers
  - Degradation processes

- H-RTI
  - Understand topography, stratigraphy
  - Degradation state
Local constraints

- Photogrammetry
  - Space
- Technical photography
  - Accessibility for the lightning and the camera
- H-RTI
  - Accessibility for the lightning and the camera
Team

* Irina, engineer
* Xosé, archaeologists
* Nutsa, conservator
* Krzstof, engineer
* Daniela, conservator
* Amandine, conservator

* Most relevant
  - Multidisciplinary
  - Different background
Photogrammetry

- Different scales = different base lines
  From large to focused
2\textsuperscript{nd} and 3\textsuperscript{rd} base lines with focus on the “P”
2\textsuperscript{nd} and 3\textsuperscript{rd} base lines with focus on the “P”

The different acquisitions are merged in one 3D model
Technical photography

RGB

IR

IR- FC
Focused “P”

Auto-alignment Photoshop: result of direct dialogue

Krzystof Leche

1) Visible
2) IR
3) IR False Color
Micro technical photography

- Closer look of specific area
“Micro” technical images illustrating paint layers

1) Visible
2) Ranking light
3) IR
4) UV

Remarks
Problem with changing tool/instrument for precision of positioning and different scale
Solution: image processing: using script (“image alignment”) in Photoshop
Results/Perspectives

- Photogrammetry
  - Global view: west wall, dressing room
  - Different scales: full wall, "P"
  - Questions raising: stratigraphy, topography, shape...
  - Monitoring through technical data

- Technical Photography
  - Optical behaviour of the surfaces
  - Method mapping
  - Chronology of the painting
  - Degradation state

- H-RTI
  - Understand topography, stratigraphy
  - Degradation state
  - Presentation different phenomena