

1st day

Technical Photography (TP) (6 h)

VIS, Visible

[Camera calibration](#), [Polarized light](#), [Mirror lock up](#)

RAK, Raking light Photography

UVF, Ultraviolet Fluorescence Photography

[Filters](#), [UV lamps](#), [UV254](#)

UVR, Ultraviolet Reflected Photography

IR, Infrared Photography

[Lenses Database](#),

IRT, Infrared Transmitted Photography

IRF, Infrared Fluorescence Photography

[Intro](#), [Illumination](#)

IRFC, Infrared False Color Photography

[Editing IRFC](#)

TP.psd on Photoshop, [Registration](#), ControlMyNikon, Camera Raw

LAB: TP and TP.psd on [Pigments Checker](#)

Readings: [Identification of pigments by multispectral imaging a flowchart method](#)

[Practical notes on ultraviolet technical photography for art examination](#)

[Effects of Different Binders on Technical Photography and Infrared Reflectography of 54 Historical Pigments](#)

2nd Day

Panoramic Technical Photography (1 h)

[Panoramic head](#), Panoramic Software.

LAB: Shooting High Resolution Technical Photos (VIS, IR, UVF), “Madonna and 4 Angels” oil painting.

Readings: [A practical guide to Panoramic Multispectral Imaging](#)

Panoramic Infrared Reflectography (PIRR) (1,5 h)

[IRR cameras](#), [PTGUI](#)

LAB: PIRR on Madonna and Child mock-up painting (85 mm lens, 1m, Merlin Indigo camera).

Readings: [Panoramic infrared Reflectography. Technical Recommendations](#)

Optical Microscopy (1 h)

LAB: [Cross-section preparation](#)

Reflectance Spectroscopy (1 h)

[Fiber Optics Reflectance spectrometer for pigments identification](#)

LAB: Reflectance Spectroscopy on [Pigments Checker](#)

Readings: [FORS spectral database of historical pigments in different binders](#)

RTI (1,5 h)

[RTI hardware](#) (reversible tripod, remote shutter, remote speedlights), RTI software (RTI Builder and viewer).

LAB: RTI on “Italian panorama” oil painting.

Readings: [Innovative Imaging Techniques for Examination and Documentation of mural paintings and historical graffiti in the catacombs of San Giovanni, Syracuse](#)
[Macro Photography for Reflectance Transformation Imaging: A Practical Guide to the Highlights Method](#)

3rd Day

Multispectral Imaging (MSI) (4,5 h)

Shooting spectral images.

Splitting images into RGB channels.

Registering spectral images.

Calibrating spectral images.

Spectra reconstruction and mapping.

LAB: MSI on [Pigments Checker](#) and on “Madonna and Child” oil painting

Readings: [Multispectral imaging and the art expert](#)

[Multispectral Imaging of Pigments with a digital camera and 12 interferential filters”](#)

[Panoramic, Macro and Micro Multispectral Imaging: An Affordable System for Mapping Pigments on Artworks](#)

[Multispectral imaging system using 12 interference filters for mapping pigments”](#)

3D photomodeling (1 h)

Photogrammetry software, hardware.

LAB: 3D modeling with Agisoft Photoscan

Optical Microscopy (30’)

LAB: Cross-section - grinding and observation