2020 Training at CHSOS Studio in Italy

ebook author

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We just released the new 2020 Training calendar. Participate in our Training programs organized in the CHSOS Studio in Italy.

Choose your field of application. Are you a painting conservator? a paper conservator? Do you do documentation of wall paintings? In order to serve specific professional needs, our upcoming programs are focused on the 3 more common kinds of cultural objects: wall paintings, manuscripts, paintings. These programs present the same set of technical examination methods but focused on different artifacts. For example, Infrared photography can be applied successfully on wall paintings as well as on manuscripts. Though, the information gained from these different objects, as well as the equipment used would be quite different. Thus the need to offer focused programs, to gather together professionals involved in different art conservation sectors.

Training focused on **wall paintings** March 17-20 2020. Early bird registration deadline January 31st.

Training focused on **manuscripts** June 9-12 2020. Early bird registration deadline March 31st.

Training focused on **paintings** December 8-11 2020. Early bird registration deadline October 31st.

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Title: Practical methods for Art Examination
Available Seats: max 5 participants
Fee. 990 euro (before the early-birds deadline), 1390 euro (after deadline).
Location: CHSOS Studio, address: via Matrice, 4, Viagrande 95029, Italy. We are 30 minutes from Catania Airport (CTA) with direct flights to European main cities.
Travel. We suggest to flight to Catania (CTA) airport, 30 minutes driving to the Studio. From the airport you can either take a taxi or, often, the B&B that you reserved they also offer pick-up service.
Timetable. We do 6 hours per day with this schedule: in the morning 9AM-1PM (4 hours) and in the afternoon 3PM-5PM (2 hours).
Accommodation. Viagrande is a small and picturesque village with a bit of tourism so there are a number of B&B you can choose from, most of them are close to our Studio. They are all listed on booking.com. We suggest you book one of those located in downtown Viagrande, walking distance from our Studio (via matrice, 4, Viagrande). Some suggestions: VELARDI B&B IL B&B Maison Graziella
Eat. Food in Sicily is generally excellent. There are plenty of places to eat for breakfast, lunch, and dinner at walking distance from our Studio.

Register to the training program of your choice. You will receive an automatic reply confirming we have received your request and then you will receive our email confirming you have been accepted. You can then proceed to pay your fee to finalize your registration.

Training modules

CHSOS offers instruction on Technical Photography (TP), Panoramic Infrared Reflectography (PIRR), Reflectance Spectroscopy (RS), Raman Spectroscopy (RAMAN), Multispectral Imaging (MSI), X-Radiography(RAD), Reflectance Transformation Imaging (RTI).

Read a brief introduction to these methods:

Technical Photography (TP)

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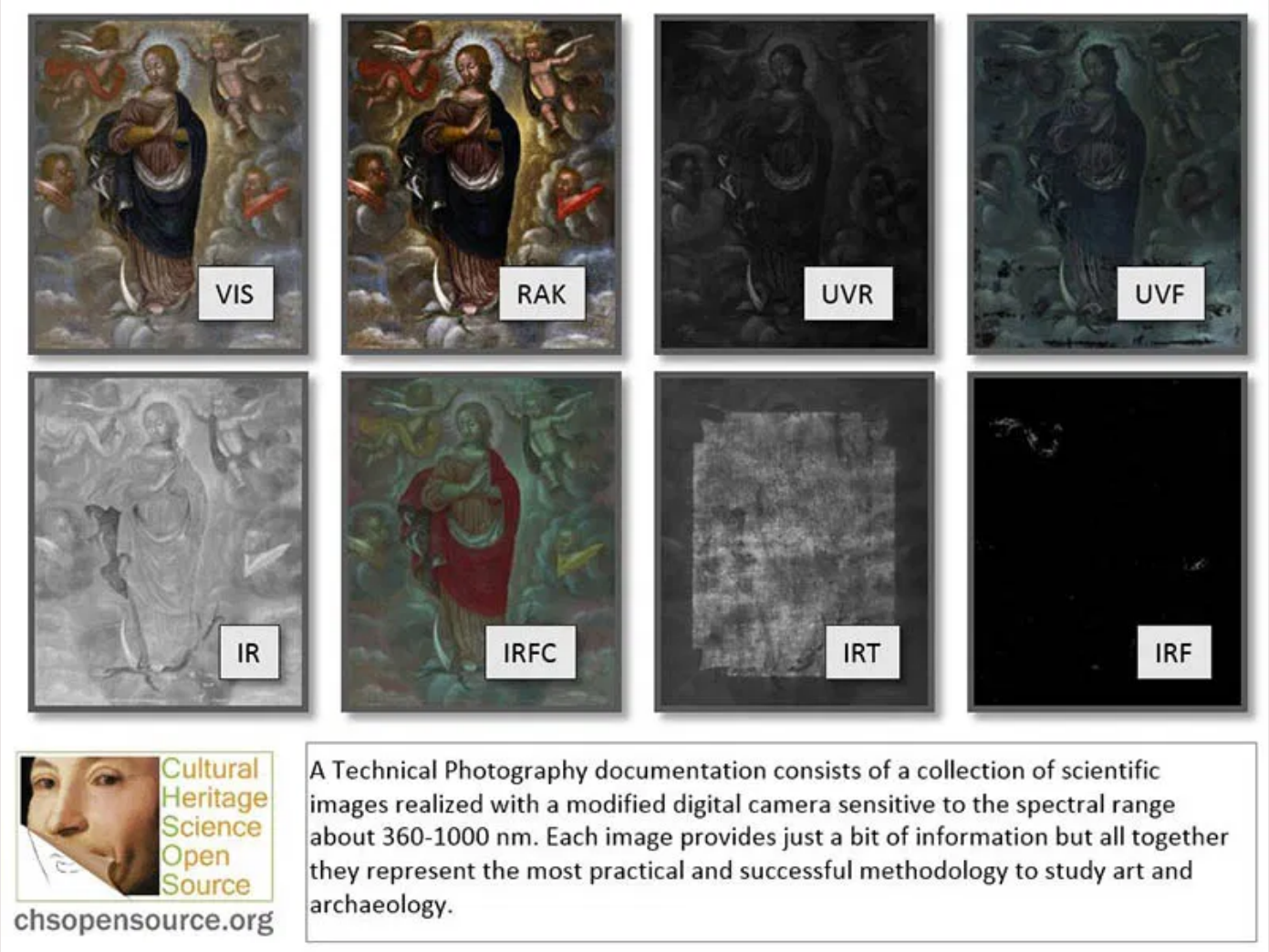
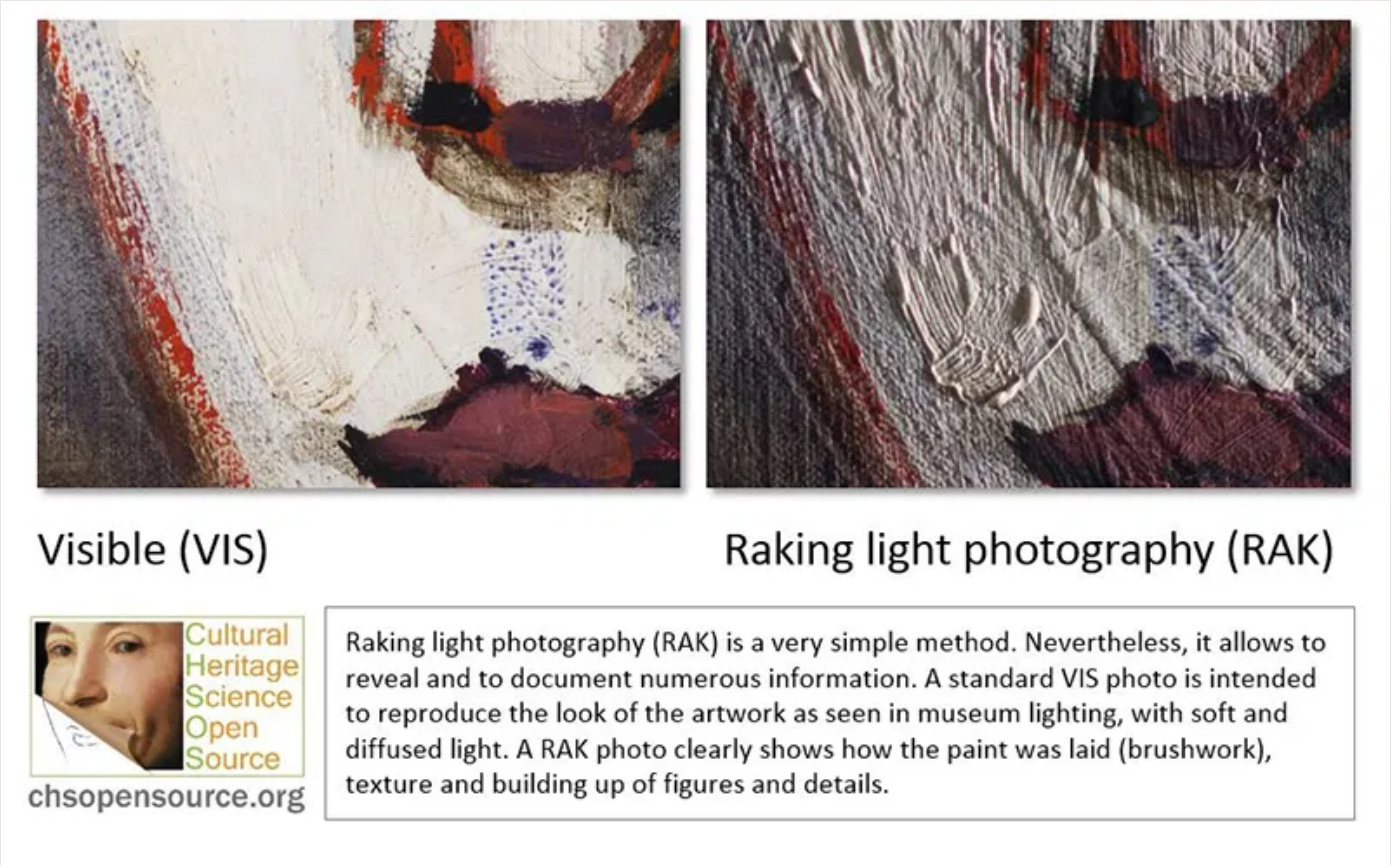
Technical Photography (TP) represents a collection of images realized with a modified digital camera sensitive to the spectral range about 360-1000 nm.. Different lighting sources and filters are used to acquire a selection of technical images, each one providing different information regarding the object under examination.



A Technical Photography documentation consists of a collection of scientific images realized with a modified digital camera sensitive to the spectral range about 360-1000 nm. Each image provides just a bit of information but all together they represent the most practical and successful methodology to study art and archaeology.

Visible (VIS)

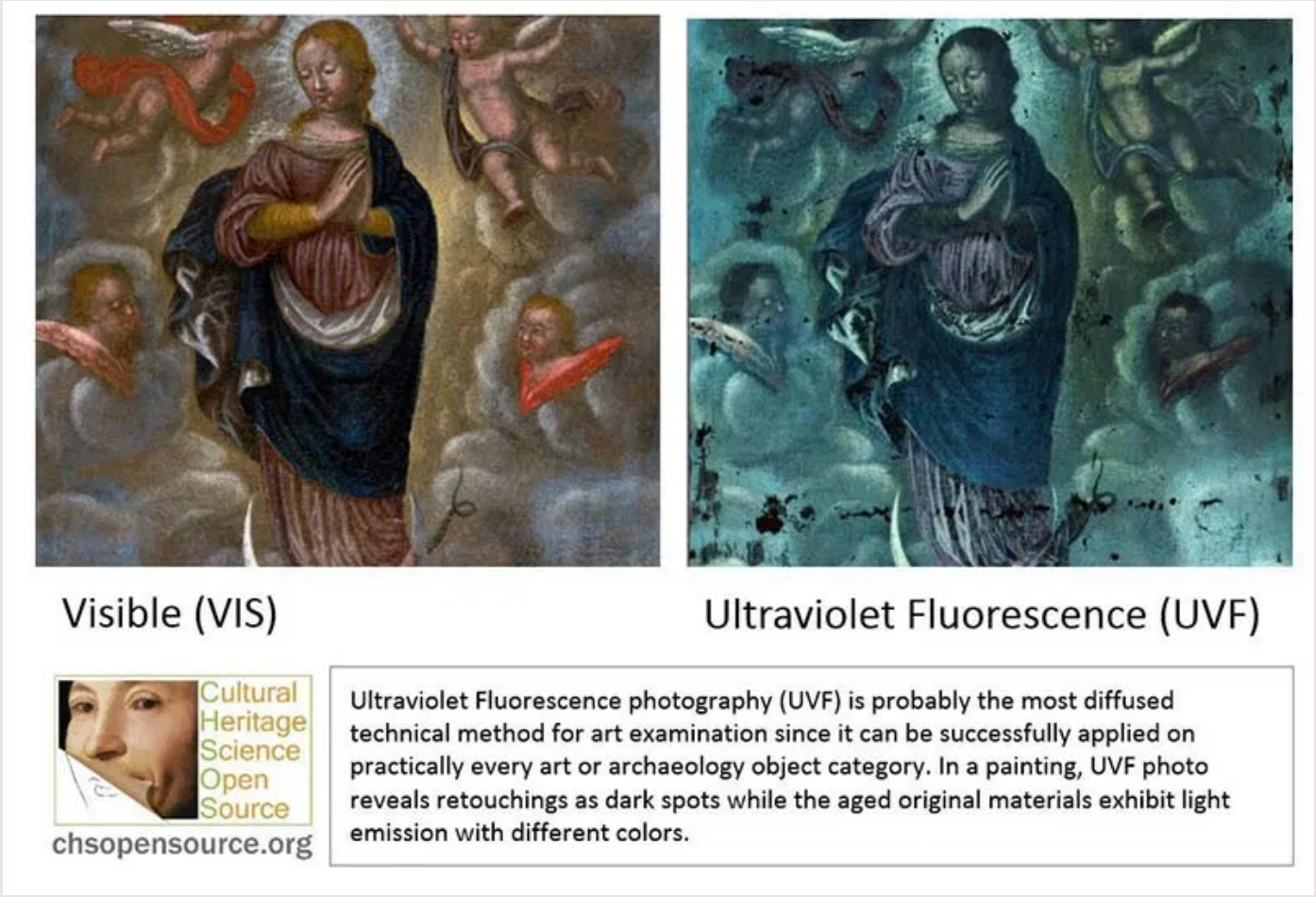
Art examination starts with a high-quality photographic documentation in the standard visible range of the electromagnetic spectrum. Color camera calibration, exposure correction, white balance, sharpness. color checkers, resolution. These are some of the topics to master in order to obtain quality photo documentation of art objects and archaeology. **Polarized light photography (PL) and Raking light photography (RAK)** are very helpful photographic methods widely used by fine arts photographers and they also belong to the visible range of the spectrum.



Raking light photography (RAK) is a very simple method. Nevertheless, it allows to reveal and to document numerous information. A standard VIS photo is intended to reproduce the look of the artwork as seen in museum lighting, with soft and diffused light. RAK photo clearly shows how the paint was laid (brushwork), texture and building up of figures and details.

Ultraviolet Fluorescence photography (UVF)

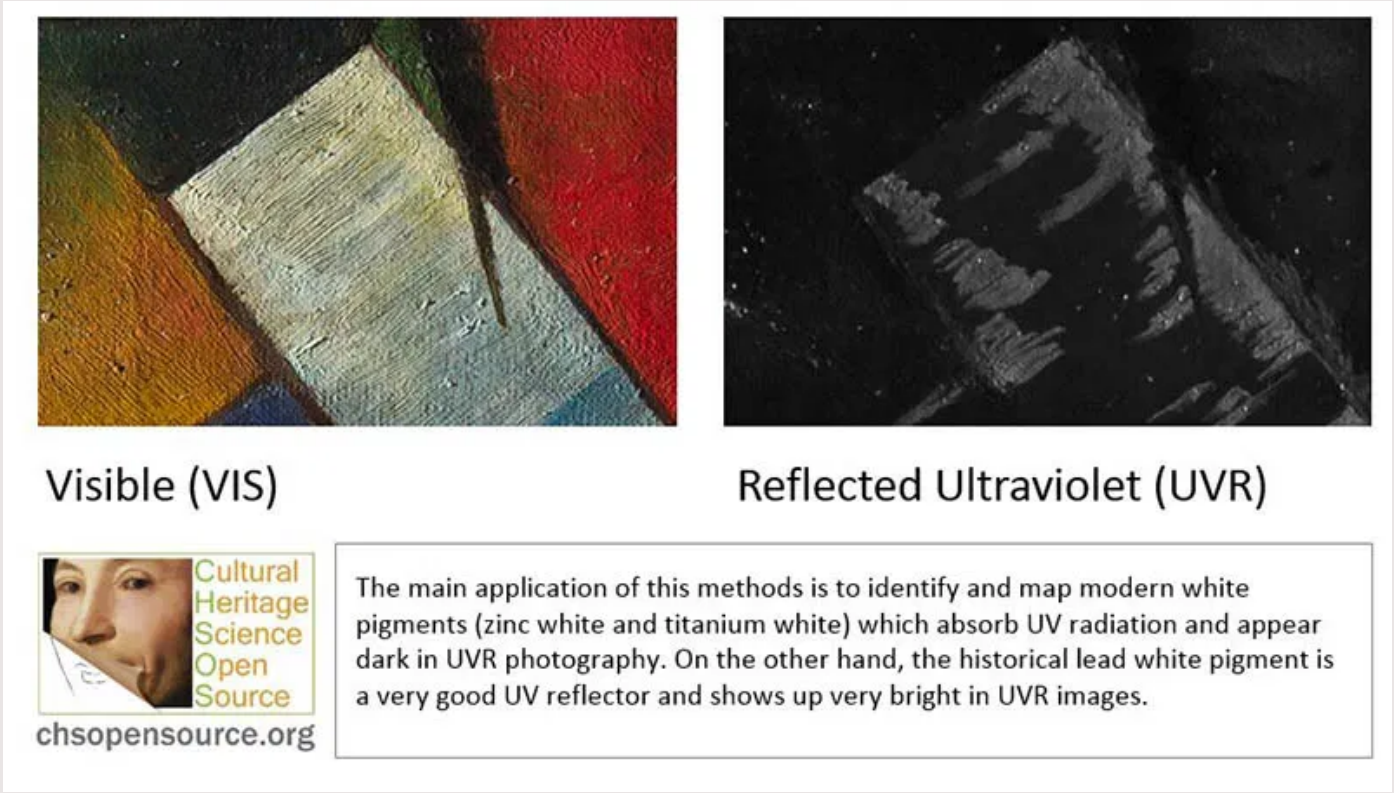
Some Art and conservation materials (pigments, binders, varnishes, consolidants, adhesive...) exhibit the emission of visible light of different colors when they are exposed to ultraviolet radiation. This phenomenon – called ultraviolet fluorescence – can be appropriately documented using proper filters and UV lamps and it provides plenty of information on the presence and distribution of these materials. Among the technical photographic methods, UVF is the most widely used for many kinds of artifacts; paintings, textiles, paper, historical documents, stone, even photography conservation.



Ultraviolet Fluorescence photography (UVF) is probably the most diffused technical method for art examination since it can be successfully applied on practically every art or archaeology object category. In a painting, UVF photo reveals retouchings as dark spots while the aged original materials exhibit light emission with different colors.

Reflected Ultraviolet photography (UVR)

The main application of this methods is to identify and map modern white pigments (zinc white and titanium white) which absorb UV radiation and appear dark in UVR photography. On the other hand, the historical lead white pigment is a very good UV reflector and shows up very bright in UVR images. Lead white was used from antiquity to the 1920′ when the modern and safe titanium white totally replaced it. UVR photography is a very effective method to tell the presence of inpaints made with modern white over original lead white.



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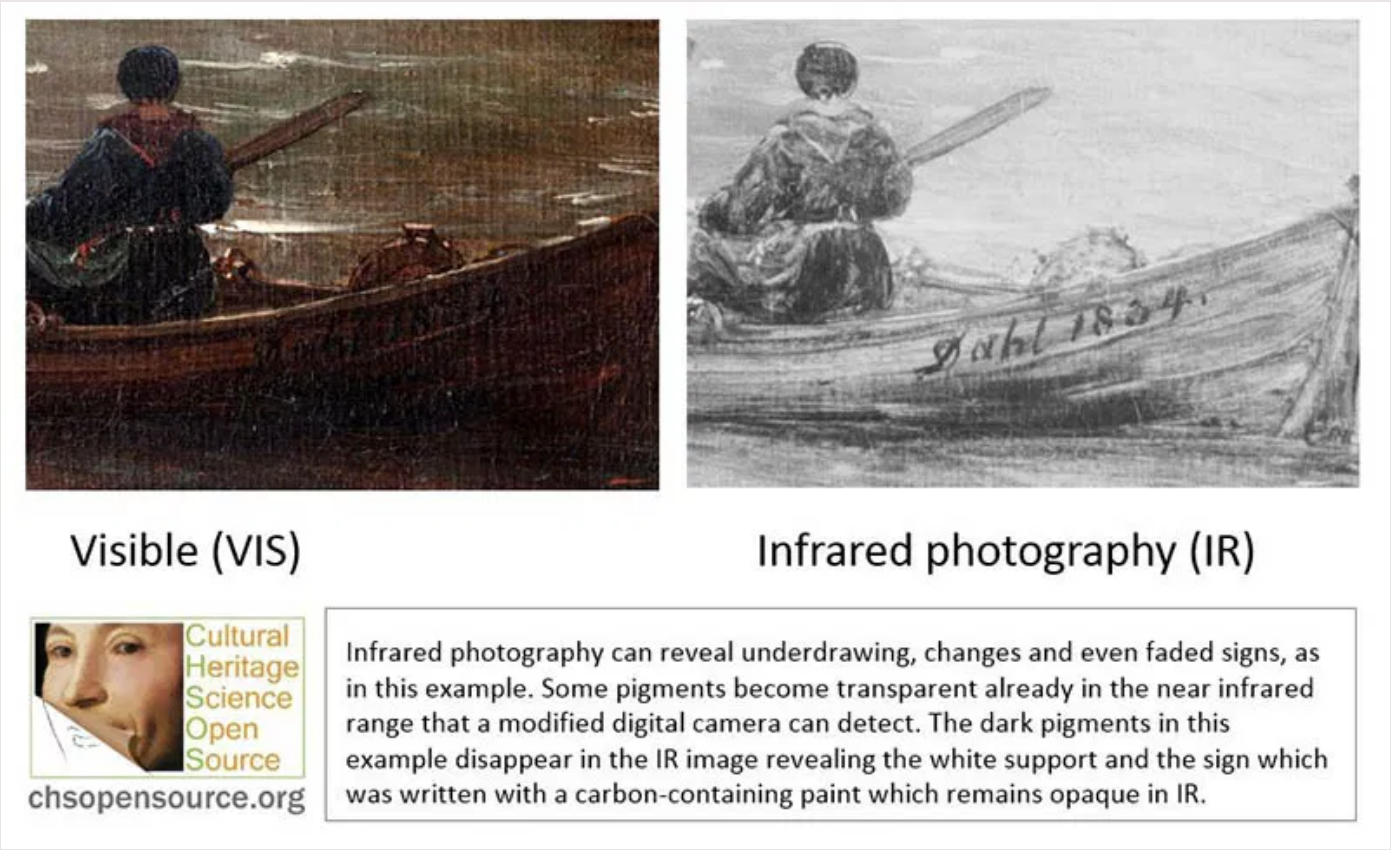
Infrared photography (IR)

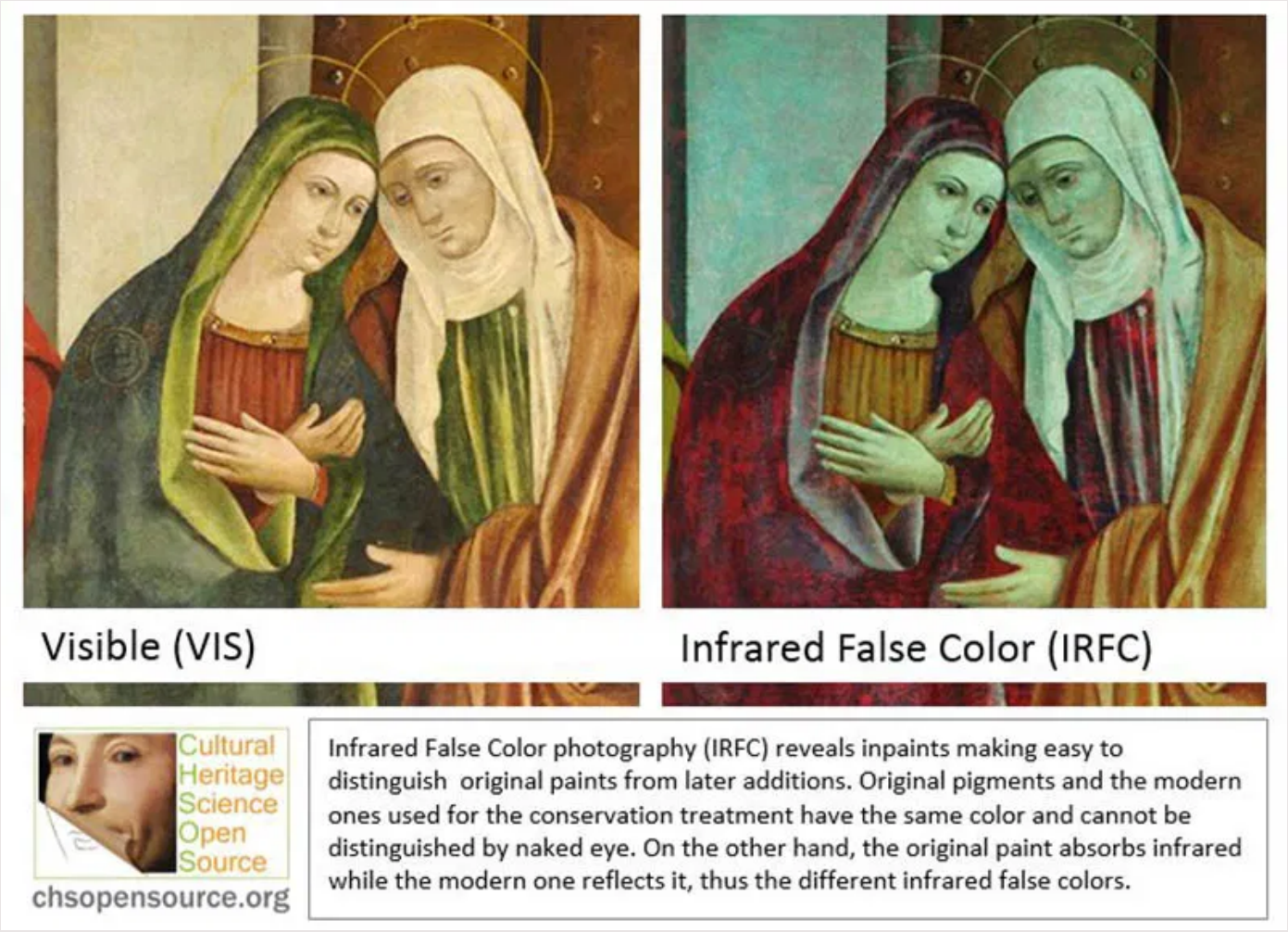
Some pigments become transparent in the near infrared and infrared photography can reveal underdrawing and changes. in particular ochre pigments (yellow ochre, red ochre, raw sienna...) and red and yellow lakes are the ones that become more transparent totally revealing traces of hidden drawing.



Infrared photography can reveal underdrawing, changes and even faded signs, as in this example. Some pigments become transparent already in the near infrared range that a modified digital camera can detect. The dark pigments in this example disappear in the IR image revealing the white support and the sign which was written with a carbon-containing paint which remains opaque in *IR.*

Infrared False Color photography (IRFC)

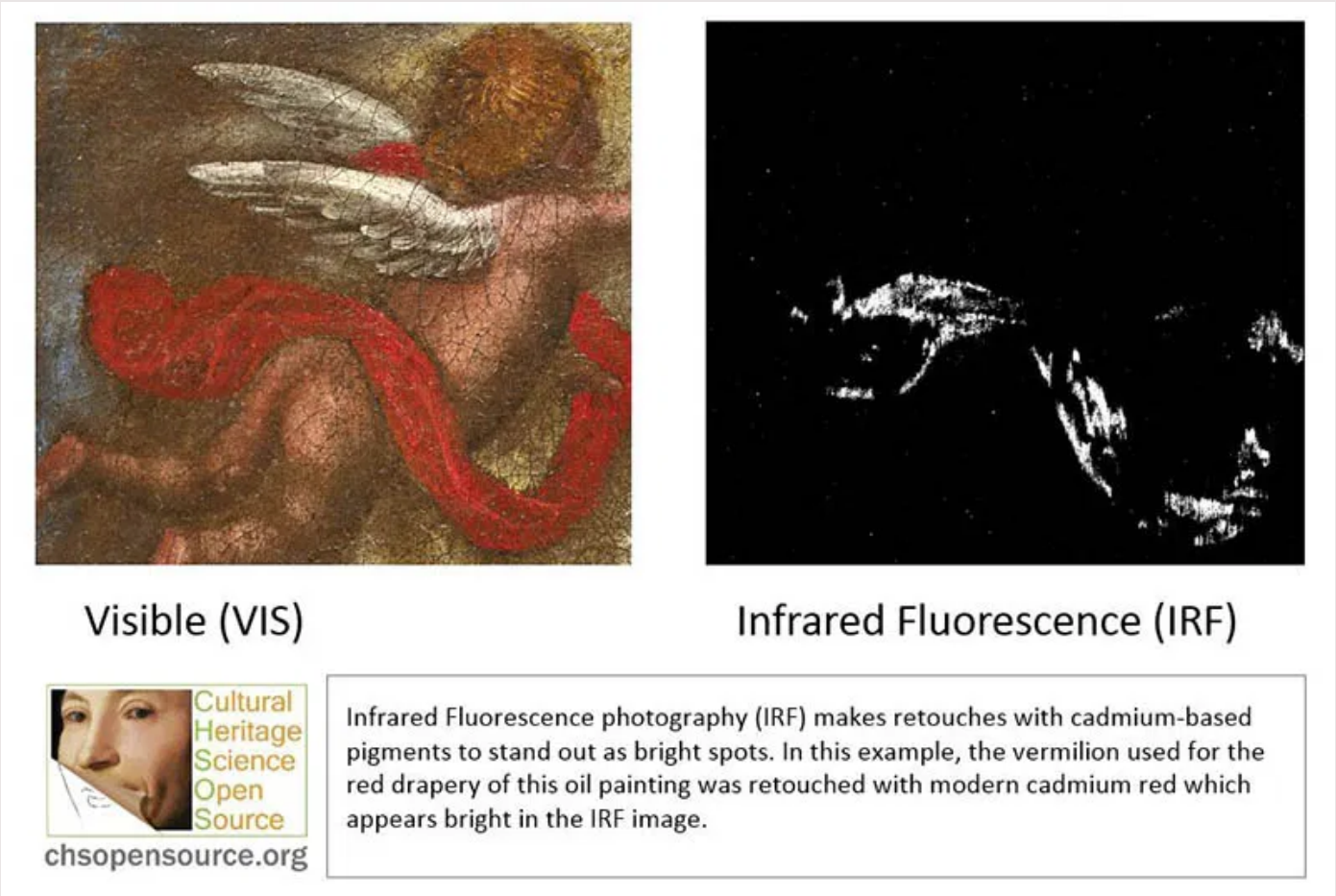
Infrared False Color photography (IRFC) is used to map inpaints and to tentatively identify pigments or at least distinguish original paints from inpaints. Even if the original pigments and the modern ones used for the conservation treatment have the same visible color and cannot be distinguished by the naked eye, IRFC photography can reveal the new paints if they reflect or absorb infrared differently than the original ones.



Infrared False Color photography (IRFC) reveals inpaints making easy to distinguish original paints from later additions. Original pigments and the modern ones used for the conservation treatment have the same color and cannot be distinguished by naked eye. On the other hand, the original paint absorbs infrared while the modern one reflects it, thus the different infrared false colors.

Infrared Fluorescence photography (IRF)

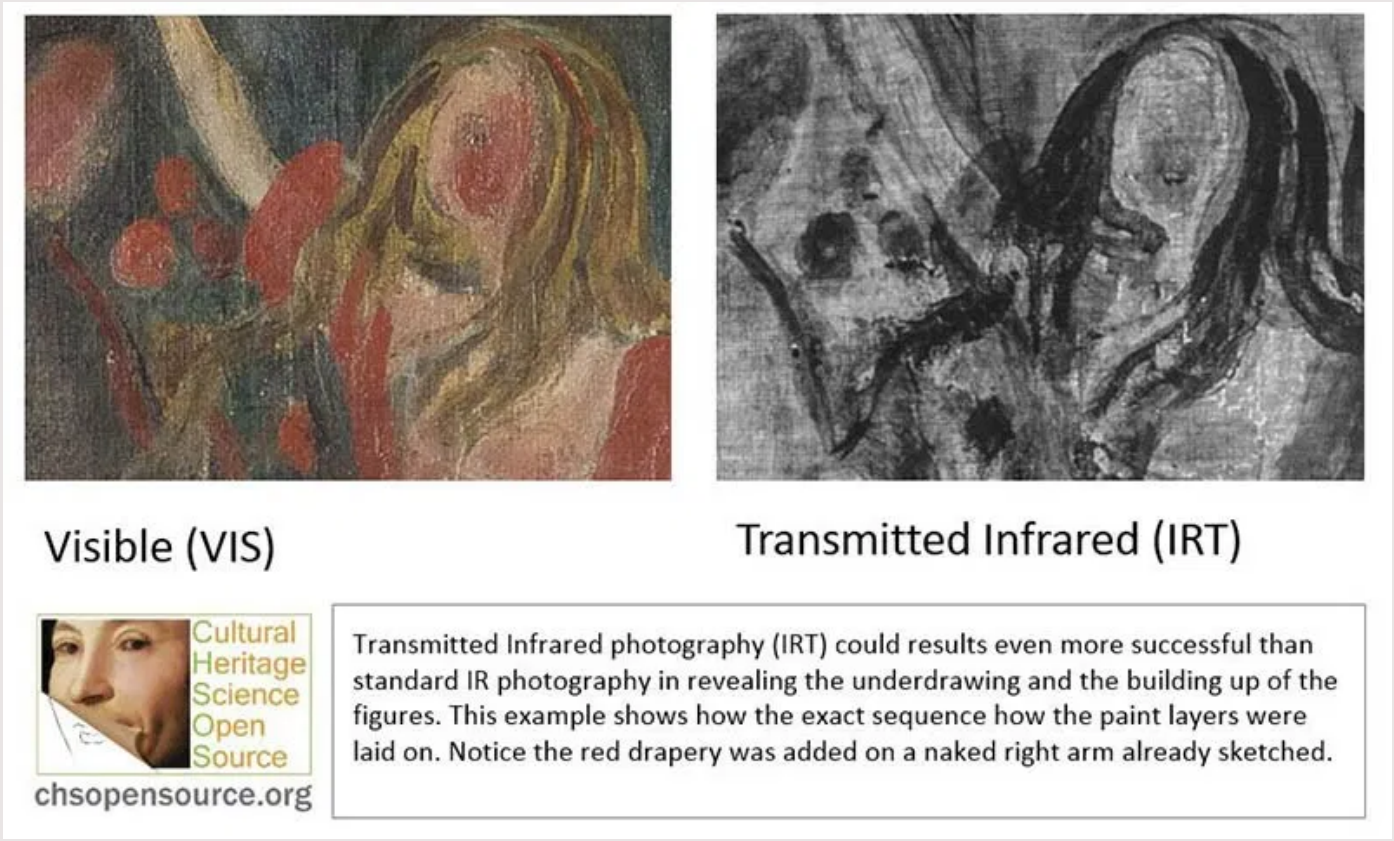
Some molecules and minerals (among them mineral pigments) exhibit Infrared Fluorescence. This phenomenon is similar to Ultraviolet Fluorescence where a beam of ultraviolet light produces visible light emission. In the case of infrared fluorescence, a beam of visible light generates an emission of infrared radiation. IRF photography allows to map and detect Egyptian blue and cadmium-based pigments.



Infrared Fluorescence photography (IRF) makes retouches with cadmium-based pigments to stand out as bright spots. In this example, the vermilion used for the red drapery of this oil painting was retouched with modern cadmium red which appears bright in the IRF image.

Transmitted Infrared photography (IRT)

Transmitted Infrared photography (IRT) allows to detect underdrawing and pentimenti. It is a very effective since pigments become even more transparent than in the usual IR photography method. IRT can be applied only for art objects on translucent supports, such as paintings on canvas, drawings on paper, historical documents and manuscripts.



Transmitted Infrared photography (IRT) could results even more successful than standard IR photography in revealing the underdrawing and the building up of the figures. This example shows how the exact sequence of how the paint layers were laid on. Notice the red drapery was added on a naked right arm already sketched.

Panoramic Infrared Reflectography (PIRR)

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Panoramic Infrared Reflectography (PIRR) is a valid alternative to the much more expensive scanners for Infrared Reflectography (IRR) which is the imaging of works of art with a scientific camera in the range 1000- 1700 nm or further. Pigments such as azurite, Prussian blue and malachite become transparent only in the far infrared at about 1500 nm. The PIRR method consists of taking a series of images of a scene with a precision rotating head and then using panoramic software to align and stitch the shots into a single, seamless panorama. It can be implemented with consumer panoramic imaging tools, which can be upgraded following technical developments; as opposed to infrared scanners, which are products that cannot be modified. Self-assembled, modular equipment can be modified for specific tasks and upgraded with a comparatively little budget, following technical and scientific developments in the consumer market, e.g. upgrading to an InGaAs camera with higher pixel count. The stitching software is easy to use; the overall panoramic method does not require specialized personnel or intensive training and, for these reasons the method is appealing to medium-small museums and private conservators who want to implement an affordable method to professionally document their objects.

Visible (VIS) | Infrared (IR) | Infrared Reflectography (IRR)

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chsopensource.org

Infrared Reflectography (IRR) makes pigments more transparent than IR photography. Though, IRR cameras have much smaller sensors so it is necessary to acquire a large number of images with the panoramic head and then stitch them together using the Panoramic stitching software.

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Reflectance Spectroscopy (RS)

In the analysis of polychrome artworks, among the techniques available in the portable version, Reflectance Spectroscopy (RS) has been established as a powerful one for the identification of pigments. An RS spectrum shows for each wavelength, the ratio between the intensity of the reflected light and the incident light, measured with respect to a standard white reference. This ratio is called reflectance and is given in percentage (%). The RS spectra can provide information useful for pigments identification since the radiation that is not reflected is absorbed or transmitted depending on the chemical composition of the material tested. The peculiar advantage of this method with respect to the other spectroscopies most commonly used, such as XRF and Raman, is that the RS equipment can be assembled with relatively low-cost components.

Cultural Heritage Science Open Source
chsopensource.org

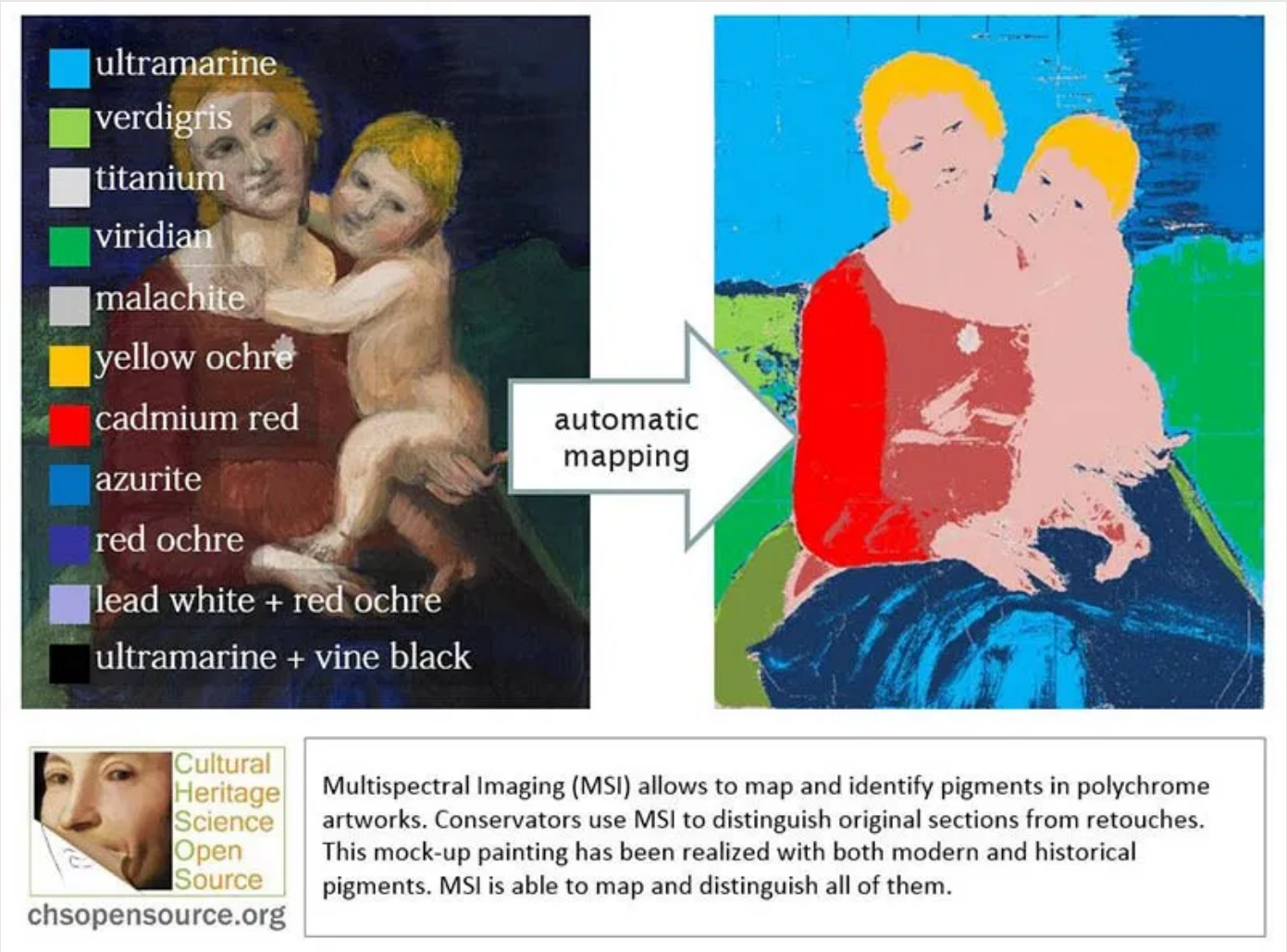
Reflectance Spectroscopy is a valid tool for conservators. This statue is extensively gilded but a good part of it has been is lost. Even in some areas, the bolo (red ochre) preparation is still visible. Reflectance spectroscopy can tell the original gilding from those areas that have been replaced with yellow paint that the spectrometer identified as yellow ochre.

Raman Spectroscopy (Raman)

We present our new Raman Spectrometer, Elvira. Precise, easy to use, affordable, and packed with accessories for our daily work in technical art examination. This is our best choice for art professionals to start on Raman.

Multispectral Imaging (MSI)

Multispectral Imaging (MSI) is used to identify and map pigments in polychrome artworks and to enhance the reading of faded historical documents. Conservators can use this technique to distinguish original sections from inpaints and to select the proper conservation procedures. MSI analysis is based on the same concepts of Reflectance Spectroscopy but MSI has the added advantage that the pigments can be identified and mapped remotely on large areas rather than just a spot. Images of an object in a series of spectral bands are acquired, and once the images are registered and calibrated, they are uploaded into a Reflectance Image Cube. We developed and we propose an affordable MSI system with a complete workflow for spectral images calibration, registration, and pigments mapping.



Multispectral Imaging (MSI) allows to map and identify pigments in polychrome artworks. Conservators use MSI to distinguish original sections from retouches. This mock-up painting has been realized with both modern and historical pigments. MSI is able to map and distinguish all of them.

X-Radiography (RAD)

CHSOS is developing low-cost and practical methods to perform radiography on art and library items. We want to allow art professionals and small and medium studios and institutions to perform radiography with much easier equipment to handle. When it comes to Radiography it's a question of costs but also and mostly, handling sensitive equipment, the X-ray radiation tube.

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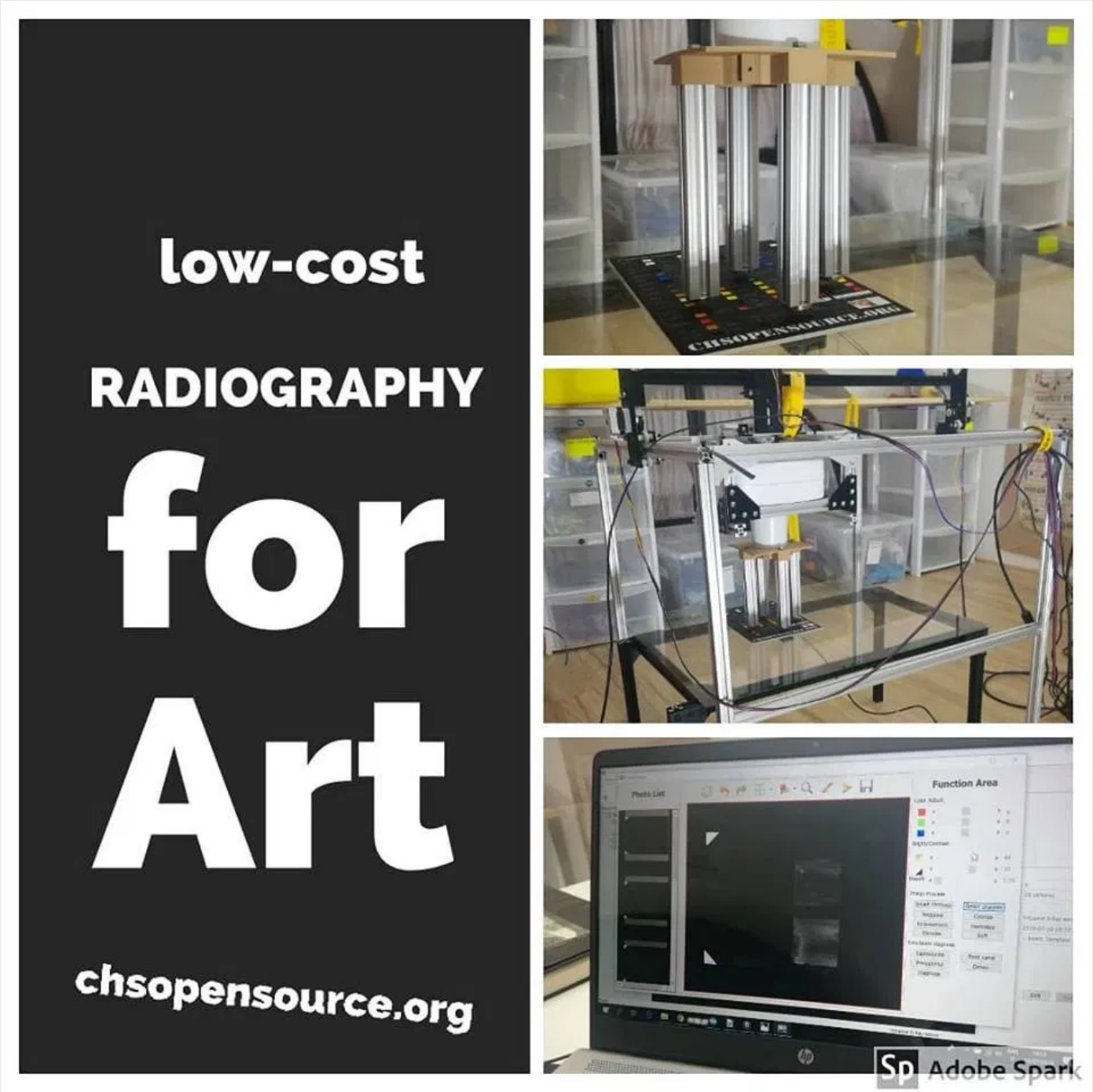
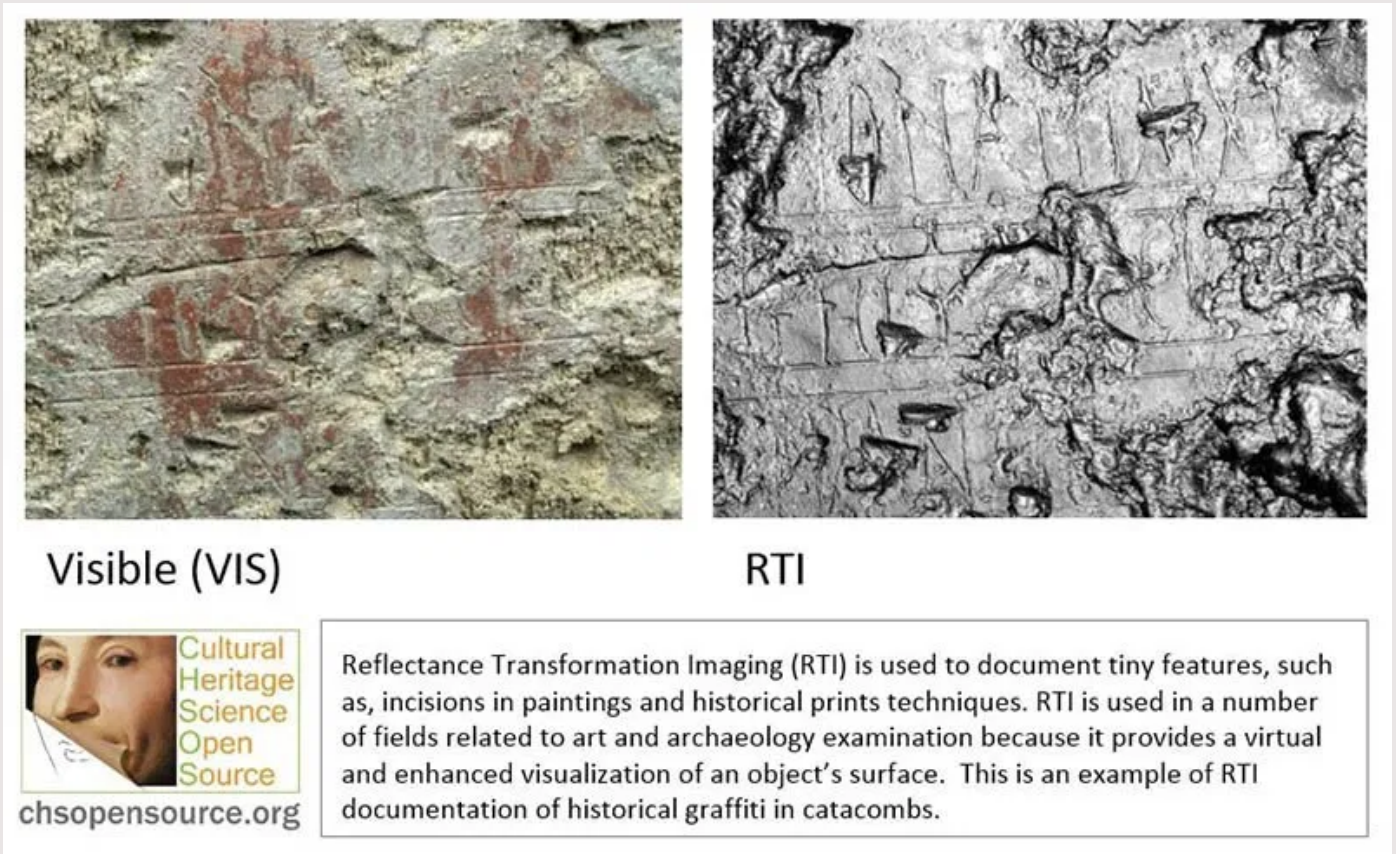
There are different kinds of X-ray tubes. Small tubes or powerful ones. The bigger the tube to the higher the cost. What really matters is the number of permits and limitations that are involved with handling and owning large tubes. So, our efforts are aimed at showing what we can do with the smallest tubes available on the market, those ones used by your dentist. Since these tubes have very low power, their regulation is much easier. So, it really makes sense to take out the best of them for our applications for art examination.



Reflectance Transformation Imaging (RTI)

Reflectance Transformation Imaging (RTI) is a computational photographic technique used in a number of fields related to art examination and documentation. RTI provides a virtual and enhanced visualization of an object's surface where the lighting direction can be changed interactively and enhancements can be performed to make surface' details more visible. It relies on the Polynomial Texture Map method which is an image-based representation of the object's surface achieved by capturing the object under lighting from different directions. It is used to visualize tiny incisions in paintings and historical prints as well as to document highly reflective objects such as coins.



Reflectance Transformation Imaging (RTI) is used to document tiny features, such as incisions in paintings and historical prints techniques. RTI is used in a number of fields related to art and archaeology examination because it provides a virtual and enhanced visualization of an object's surface. This is an example of RTI documentation of historical graffiti in catacombs.

Find more information on our training program for institutions and professionals. CLICK HERE.

Q. The scheduled dates for the Training programs do not work for me. Can I request a Training on different dates? How much will the fee be?

A. Yes, you can contact us and activate a Training on dates fitting your specific dates by paying the full 3-days Training fee. Contact us for details.