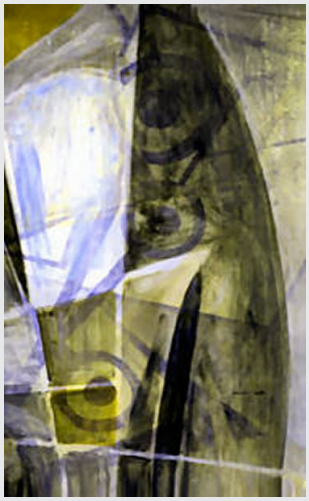
Behind the scenes *Scanning work of Art*

Preservation of cultural inheritance like paintings, manuscripts, maps and old photos through documenting and transforming to digital form for archives, research, conservation or for display is increasing remarkably. Museum laboratories and university researchers use wider range of analytical instruments to study collections. There is need to study, for example, materials like pigments, dyes and binding media not only to observe possible degradation or changes due to aging or environmental conditions but also to reveal artist's painting technique and making methods used in work of art.

Success story: Composition by Henryk Stazewski, 1957, oil

RGB photograph



HSI false color image

X-Ray image

For her doctoral thesis Agata Warszewska-Kolodziej studied in The National Museum of Wroclaw, Poland, the oil painting "Composition" by the famous Avant-garde Polish painter Henryk Stazewski. Earlier X-ray scan showed that behind the visible painting a sketch or earlier painting existed. The painting was then measured using SPECIM's spectral scanning instrument for SWIR region revealing far more information on the underlying work. "We were able to exactly determine how the painting under the composition looked like" says Agata.

Art Scanner with VNIR or SWIR camera

- Quick and safe optical measurement
- Non-invasive and non-destructive

Hyperspectral imaging (HSI) is gaining wide acceptance as one of the most valuable optical tools for art archiving and restoration. HSI is an optical instrument used to measure the reflectance or transmittance of light by materials and the results are presented in the form of spectral curves. It is a non-invasive and non-destructive imaging technique that is safe for even the most fragile samples. It is used remotely to scan all parts of the sample with high spatial resolution (down to 15 µm pixel size). HSI records both spatial and spectral information which can be used to classify chemical, physical and/or biological properties of the object.

In visible range it gives improved precision in color measurement for recording pigment color-change which is essential for conservation. In near infrared the information hidden behind the outer layer or written text that has deteriorated and faded under environmental conditions may be revealed. Besides, fluorescence investigation is prone to highlight different solvent and binders.

SPECIM provides instrumentation for different spectral regions. Each Spectral Camera enables the user to emphasize different properties of the sample. Our Art Scanner can be equipped with VIS, VNIR, NIR or SWIR camera.