**GERMOLLES case study**

Contribution of spatial and spectral imaging techniques to the re-examination of conserved but poorly documented wall paintings for their long term preservation: application to the wall paintings of the Ducal Palace of Germolles

1. **Duration:** December 2013-July 2016

The re-examination of Germolles’ wall paintings has started in 2013 when the SARL Germolles, in charge of the management of the château applied for funds under the EU Joint Programming Initiative “Cultural Heritage and Global Change: a new challenge for Europe” (JPICH). Although our application was not successful, it was the starting point of several projects that are currently in progress and should be completed in 2016.

2. **Description of the site, its significance and suitability for the proposed case study**

The palace of Germolles, located 10kms west of Chalon-sur-Saône (FR), is the only country estate (demeure de plaisance) of the Dukes of Burgundy that has been preserved so extensively. The domain was offered by Philip the Bold, brother of French king Charles V, to his wife Margaret of Flanders in 1381. The Duchess transformed the stronghold of Germolles into a luxurious home with the help of the finest artists of the Burgundian School (including Claus Sluter for the sculptures and Jean de Beaumetz for the wall paintings).

*Fig. 1: General view of Germolles’ palace.*
It is on the first floor of the palace that the wall paintings produced by Jean de Beaumetz and his workshop using the oil painting technique are found. Records from the period (accounting notes\(^1\)) list all the materials used such as fine gold and substantial quantities of tin foil (uncoated white and green in addition to vermeil-coated) as well as organic compounds, such as linseed and walnut oils.

Four rooms had their wall paintings partly or fully restored between 1989 and 1991. The decoration of the dressing-room of Margaret of Bavaria (daughter-in-law of the Duke and Duchess of Burgundy and wife of their eldest son John the Fearless) have been almost fully revealed under the 19\(^{th}\) century plasters that had been applied on top after chipping away the original paintings (Fig. 2).

![Fig. 2: Mural decoration of the dressing-room of Margaret of Bavaria, daughter-in-law of Margaret of Flanders, after the removal of the 19\(^{th}\) century plasters (a) and after the restoration work 1989-1991 (b).](image)

Large white P (for Philip) and M (for Margaret) letters with thistles in between (mark of fidelity) cover the walls painted in green (Fig. 2a). These motifs are characteristic of the spirit of courtly love that was very fashionable among princely courts at the end of the 14\(^{th}\) century. The 1989-1991 conservation treatment consisted of filling the holes left by the chipping process and using the trattaggio retouching technique for visual integration between original and repaired portions of the paintings (Fig. 2b). The profile of the walls is uneven and we suspect plaster disbands from the walls in some areas.

In the Duchess’ apartment “marguerites” in bloom (referring to Margaret’s name) with large yellow P letters (Fig. 3a) are decorating the walls, while the Duke’s rooms consist of roses on the red-brown background, which must certainly refer to the Virgin Mary (Fig. 3b).

![Fig. 3: Mural decoration of the dressing-rooms of Margaret of Flanders, duchess of Burgundy (a) and Philip the Bold, duke of Burgundy (b), after the restoration work 1989-1991.](image)

\(^1\) B 4434 -1, Baillage de Dijon, compte ordinaire – 1389-1390. f°22v° - 24.
In total the surfaces conserved correspond to 4 walls – a room - fully restored (5mx3m per wall) and 4 sections of walls in three other rooms which have only been partially restored (2mx1m and 3mx3m) (Fig. 4). Therefore most of the walls surfaces of the 1st floor are still covered with 19th century plasters.

With the exception of visible aspects of the conservation work (such as the filling of the holes and visual reintegration), today we ignore the extent of the intervention carried out in 1989-1991. However, we suspect some over-restoration on some areas. Furthermore we have no clear information on the conservation materials used, their ageing process and their possible effect on original remains, preventing us to predict the durability of the conservation treatment applied.

An important issue is the lack of correspondence between the exceptional surviving accounting notes and the results of the analyses carried out during the restoration campaign. The precise painting techniques that were employed, particularly the use of tin foils, remain unknown. The cost of glazed tin foils is as high as for gold leaves in medieval times due to the labour and materials needed to produce the coloured glazes but more importantly to the dimensions of the foils: tin sheets were considerably larger (up to 30 x 30cm) compared to gold leaves (8 x 9 cm) and much thicker (6-85μm compared to 0.2-5μm for gold leaves)\(^2\). Tin was not employed to save money but because it was creating relief decoration on walls and stone. It is said to have been used extensively on the vaults of the chartreuse of Champmol, the burial place of the Dukes of Burgundy in Dijon (capital of Burgundy), destroyed during the French Revolution, to create stars, branches and sunbursts. Today only one trace is still visible on one of the most impressive monument surviving from the Chartreuse of Champmol: the Well of Moses (or the Great Cross) sculptured by Claus Sluter and painted by Jean Malouel (Fig. 5).

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\(^3\) Nash, S., Pour couleurs et autres choses prise de lui ...: The Supply, Acquisition, Cost and Employment of Painters’ Materials at the Burgundian Court, c.1375–1419, in Trade in Artists’ Materials, (2010), pp. 97-182
Another interesting question concerns the use or not of linseed oil to apply the gold / tin foils. According to Aurélie Mounier who carried out an extensive survey on metallic remains in medieval heritage buildings of South-West France, the oil gilding technique where the metallic foils are fixed by a mixture of linseed oil and lead white is a common practice at the end of the 14th century⁴. Was it used also at Germolles?

3. The rationale for and the purpose of proposed case study

The original decoration of Germolles' palace is difficult to appreciate today due to the extent of the conservation work as well as the apparent absence of metallic remains. Since the château is open to the public and the wall paintings directly accessible, damage provoked not intentionally by visitors can occur on the few remains still surviving. Therefore it is essential to visualize what is left of the original, document as much as possible the technique applied and ensure its long term conservation.

Thanks to the medieval accounting notes, we have a clear idea of what we should search for. Still tin or gold foils that are listed have not yet been located. We suspect though that the black spots on the thistles of Margaret of Bavaria's dressing-room (Fig. 6) might contain some traces of these elements.

As said before if these black spots are identified as remnants (tin oxide?) of the original “gilding” process, we have to evaluate their condition state, stability and most importantly make sure that they are not damaged accidentally in the future. As said before tin was commonly employed in the 14th century by painters working for the Duke of Burgundy on wall paintings for the Chartreuse de Champmol of Dijon (1387-1390) but since they have disappeared Germolles’ walls paintings are a unique occasion to compare the metallic remains to the records of the time. Furthermore it would be essential to compare them to other remains of artworks produced at the same time by the Burgundian School, such as those from the Great Cross or remains listed in other regions of France (Mounier).

With the GERMOLLES project we plan to use and compare the performances of innovative spatial and spectral imaging techniques to re-investigate Germolles’ palace wall paintings and appreciate their level of originality. As indicated below the work has already been initiated in 2013 and we expect to develop further this non-invasive approach until 2016 to document as much as possible the currently exposed wall paintings. Only afterwards a few samples selected carefully will be performed to document further the paintings.

Since not all the existing wall paintings have been uncovered from their 19th century plasters, it is planned, after the completion of the GERMOLLES project, to apply the methodology developed on these other untouched original decorations once they are exposed. Eventually all these information will serve the virtual 3D reconstruction of the wall paintings which will show them as they might have appeared in the medieval times.

The experience gained during this case study will be used to develop guidelines on how to employ properly spatial and spectral imaging techniques on wall paintings to document their condition state before starting the conservation work.

4. Contribution to the objectives of a particular COSCH Working Group, or Groups, and generally, to the COSCH Knowledge Representation schema

When possible the spatial and spectral imaging techniques selected within the GERMOLLES case study will be used in parallel and according to a standardized protocol that will make the best of the possibilities of these techniques. Of special interest to the proposer are the accuracy and precision of the data collected.

Most of the topics of interest to COSCH action working groups (WGs) are considered within the GERMOLLES project.

**WG1:** calibration of imaging spectroscopic devices (see the pilot STSM of F. Piqué below), multispectral imaging, analysis and rendering of spectral images (current research project carried out by Le2i and future work of IRAMAT-CPRAA).

**WG2:** assessment of the spatial techniques used (structured light imaging (SLI) is currently tested on some areas of Germolles’ wall paintings to visualise the decorations in 3D and correct spectral measurements: project carried out by Le2i; soon photogrammetry will be applied more globally by CAPTAIR company) as well as comparative measurements (between SLI, reflectance transformation imaging (RTI) and photogrammetry).

**WG4 and WG5:** all topics covered. The digital preservation of cultural heritage (CH) visualizations and the virtual 3D reconstruction of the original paintings are of particular interest to Germolles’ managers since it is planned at the end of the conservation work on Germolles’ wall paintings to show the visitors the different phases of their transformation. We will benefit here of Auréli Mounier’s expertise that carried out a similar work during her PhD on the chapel of the abbatial residence of Moissac, FR.

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5 Working at IRAMAT-CPRAA
GERMOLLES’ case study will enrich the COSCH Knowledge Representation schema. Its possibilities will be demonstrated to end-users, during the COSCH training school planned at Germolles in 2016, as a way to use the most appropriate imaging techniques to document properly historical wall paintings.

5. Target users and their needs

The work carried out at Germolles will benefit to the scholars working on the Dukes of Burgundy, the artists around them and their level of expertise and innovation. Since the metallic remains of the polychromy (due to Jean Malouel) of the Great Cross and of Germolles paintings (due to Jean de Beaumetz workshop) are among the few original materials of that type still surviving, we will examine how the painting techniques used changed from one artist (Jean Malouel) to his successor (Jean de Beaumetz), both working for Philip the Bold. Furthermore comparison will be made with the artistic production of other French and European regions of the medieval times to investigate on a larger scale the practice of metallic decorations.

Conservation professionals specialised on wall paintings should benefit from the approach followed within the GERMOLLES case study. Knowledge will be gained on the use of imaging techniques to document, diagnose such artworks as well as ensure their long term conservation and will favour good practices in the field.

Germolles’ palace is privately owned and is managed by Germolles Sarl. It was entirely classified as Historical Monument in 1989. The château is open throughout the year and attracts around 10,000 visitors annually. One third of these visitors are locals, another third are French but from other regions than Burgundy and the last third are foreigners (from Belgium, the Netherlands, Germany and England). The current managers are developing a cultural and scientific project to improve the knowledge of this exceptional medieval building and transfer this knowledge to the public. The GERMOLLES case study will be a new occasion to enhance the importance and unicity of Germolles’ paintings. The outcomes of the project will be disseminated locally during our cultural season. The guided tours are given by the managers of Germolles’ palace, including the proposer. These guided tours will be used to update the visitors on the outcomes of the project.

6. Proposer

Dr. Christian Degrigny, co-manager of Germolles palace and lecturer / researcher at Haute Ecole Arc de Conservation-restauration, Neuchâtel, CH. C. Degrigny is as well one of the two COSCH Swiss delegates and WG4 leader.

- Château de Germolles, 100 place du 05 septembre 1944, Cidex 407, 71640 Mellecey, FR, tel +33.3.85980134; www.chateaudegermolles.fr; christian.degrigny@gmail.com.
- Haute Ecole Arc de Conservation-restauration, Espace de l’Europe 11, 2000 Neuchâtel, CH; christian.degrigny@he-arc.ch.

7. Other collaborators

Dr. Vincent Detalle, conservation scientist in charge of the wall paintings department at The Research Laboratory for Historical Monuments (LRMH), 29, rue de Paris, 77420 Champs-sur-Marne, FR, Tel +33. 160377780; www.lrmh.fr; Vincent.detalle@culture.gouv.fr. Field of expertise: diagnosis and conservation of wall paintings.
Julien Guery, enrolled at the University of Burgundy (Dijon), laboratoire ArTeHiS (UMR6298 CNRS-ub) into a PhD and co-manager of CAPTAIR, 115B, avenue du drapeau, 21000 Dijon, FR, Tel +33.626884566; www.captair.net; julien@captair.net. Field of expertise: spatial imaging (photogrammetry), COSCH WG4 member.

Dr. Alamin Mansouri, assistant professor, Laboratoire Le2i, UFR Sciences et Techniques, BP 47870, 21078 Dijon Cedex, FR, Tel +33.386492855; http://le2i.cnrs.fr/; Alamin.mansouri@u-bourgogne.fr. Field of expertise: spatial (structured light imaging) and spectral imaging. COSCH STSM coordinator.

Dr. Aurélie Mounier, researcher in archaeological sciences, Institut de Recherche sur les ArchéoMATériaux, UMR 5060 CNRS / Université Bordeaux 3, Centre de Recherche en Physique Appliquée à l'Archéologie (IRAMAT-CRPAA), Maison de l'Archéologie, 33607 Pessac, FR, Tel +33.607117735; mounieraurelie33@yahoo.fr. Field of expertise: metallic decorations in mural paintings, application of multispectral imaging to wall paintings.

Dr. Marcello Picollo, physicist, IFAC-CNR, via Madonna del Piano 10, Sesto Fiorentino, 50019, I; Tel +39.555226360; www.ifac.cnr.it; m.picollo@ifac.cnr.it. Field of expertise: spectral imaging applied to Cultural Heritage, COSCH WG1 co-leader.

Prof. Francesca Piqué, wall painting conservator and conservation scientist, Scuola universitaria professionale della Svizzera italiana (SUPSI), Dipartimento ambiente costruzioni e design, Istituto materiali e costruzioni, Trevano, CP12, 6952 Canobbio, CH, Tel +44.586666260, www.supsi.ch, Francesca.pique@supsi.ch. Field of expertise: spectral imaging (technical photography, spectroradiometry), COSCH WG4 member.

Dr. Jana Sanyova, conservation scientist, Institut Royal du Patrimoine Artistique (IRPA), parc du Cinquantenaire, 1000 Bruxelles, BE; Tel +32.27396711; www.kikirpa.be; sanyovaj@kikirpa.be. Field of expertise: microanalysis of paint layers produced in Northern countries (14-15th centuries).

8. Description, techniques and schedule of the work to be carried out

As usual on CH artefacts, non-invasive techniques will be applied first to document as thoroughly as possible Germolles’ exposed wall paintings. Spectral and spatial imaging techniques have already been tested and enabled to appreciate the extent of the conservation work carried out in 1989-1991 and detect traces of “metallic remains” (see section review of relevant research).

More work is required now to pursue the visualization of these traces of the original medieval decoration and analyse them. Other spatial imaging techniques will further contribute to locate surviving remains. Spectral imaging techniques will be used to select eventually a few areas where micro-sampling will be carried out. Traditional analytical techniques (EDS-SEM for elementary analysis of the pigments and GCMS and FTIR for binding media) applied on cross-sections of the embedded samples will be combined to other innovative slightly invasive techniques (such as LIBS) applied on other selected areas of the paintings to investigate the stratigraphy of the mural decorations. Additionally IR thermography will assess the physical stability of the support (plaster) of the wall paintings.

The approach followed all along the GERMOLLES case study will eventually be discussed in order to develop a documentation protocol of Germolles’ wall paintings not yet exposed and plan a strategy for the long term conservation of the whole series of mural decorations.

The following table is giving a general overview of the work already carried out or in progress (2013-2014) and to perform in the period 2014-2016 as well as the techniques to use and the agenda planned. Spatial and spectral imaging techniques are highlighted in yellow while those planned under COSCH are in blue.
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<th>Tasks</th>
<th>Year</th>
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<tr>
<td>Analytical work</td>
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<td>Re-examination of 1989 samples with EDS-SEM (elementary analysis).</td>
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<td>Spectral imaging</td>
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<td>Spatial imaging</td>
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<td>Spectral imaging</td>
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<td>Stratigraphic studies</td>
<td>September-October 2014</td>
<td>Stratigraphic studies of Germolles’ wall paintings in exposed and non-exposed areas + selective sampling.</td>
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<td>1st Expert meeting</td>
<td>1st semester 2015</td>
<td>1st COSCH WG4 / WG5 taskforce meeting to demonstrate how imaging techniques can be used at Germolles to respond to the conservation problems raised.</td>
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<tr>
<td>Analysis of cross-sections</td>
<td>1st semester 2015</td>
<td>Analysis of the micro-samples on cross-sections to investigate the stratigraphy of paint layers.</td>
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<td>Spectral imaging</td>
<td>2015</td>
<td>Multispectral imaging as a complement to spectro-colorimetry to further analyse paint layers.</td>
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<td>Spectral imaging</td>
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<td>IR thermography to assess the physical stability of paint layers.</td>
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<td>Analytical work</td>
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<td>Laser Induced Breakdown Spectroscopy (LIBS) to further investigate in a slightly invasive way the stratigraphy of paint layers.</td>
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9. **Description of the main results expected, explaining potential benefits for users and how their needs are likely to be attended and solved**

Beyond the assessment of the extent of the conservation work, the following points should be covered to provide additional information on the techniques used by the artists of the Burgundian school, particularly Jean de Beaumetz:

- Location of the “metallic remains” (if any),
- Technique used to fix the “metallic foils” (tempera or oil gilding),
- Chemical nature of the “metallic remains” (tin and/or gold foils, imitations),
- Chemical nature of under-layers,
- Presence or not of glaze on the “metallic foils” (applied brocade).

According to Mounier⁴ (2010), the oil gilding technique is favoured for gilded decorations during the medieval times due to the ease of application, shorter drying times and a better adhesion of the metallic foils. The traditional stratigraphy of layers from the top layers to the walls should be as follows: metallic foils / gilding paste / coloured layer / preparation layers (plaster). The coloured layer under the adhesive layer (gilding paste) and on top of the plaster depends on the metallic foils employed. Often gold foils is associated to cinnabar while azurite is used for silver or tin foils. Glaze can be found on the gold foils but this “applied brocade” technique appears at later times (15-16th c.).

Figure 7 below seems to indicate the presence of “gold” remains on the thistles of Margaret of Bavaria’s dressing room. The layers below these “metallic foils” are not easy to identify. Do we have a tin foil attached to the “gold”, indicating then that the Zwishgold technique⁴ was applied? But it could be also that vermeil-coated tin was used as indicated in the accounting notes. Vermeil coating is a reddish-yellow varnish containing a colorant that could be red lake, saffron, orpiment, aloes and buckthorn, and a binding agent such as oil with the addition of resin or gum³. The nature of the dark brown layer below is not very clear either as well as the way these layers are applied on the lead white layer below.

Figure 8 shows that black glaze (?) might have been applied on top of the “gold” foils.
If the presence of metallic decorations is confirmed at Germolles, we should have one of the rarest example of medieval wall paintings with associated records of the time still existing and specific conservation protocols will have to be designed to ensure their long-term conservation.

The results will be collected in a final report provided at the end of the project (July 2016). The outcomes of the project will be published and made visible to a large public, such as the visitors of Germolles’ palace.

10. Review of earlier relevant research, projects and literature

Elementary analysis of a series of samples from Germolles’ wall paintings was carried out during the restoration work in 1989 by the Research Laboratory for Historical Monuments (LRMH) using X-ray fluorescence. The position of these samples is not known. The objective was to have a general description of the paint layers. No trace of tin or gold was found. Only the green background of the paintings was identified as a double layer of Cu and Pb based pigments. Some additional pigments were analysed such as yellow ochre of the P letters and vermillion of the red petals of the marguerites in the dressing-room of Margaret of Flanders (Fig. 3a) or lead white of the P letters in the dressing-room of Margaret of Bavaria (Fig. 2b). A further examination of some of these samples was performed in 2013 using energy dispersive spectroscopy (EDS) associated to a scanning electron microscope (SEM) and gave similar results.

More recently (December 2013) a COSCH STSM was carried out by Prof. Francesca Piqué. During this STSM it was planned to examine visually the exposed wall paintings of Germolles’ palace using technical photography on some significant and representative sections of the wall paintings. The purpose was to document the materials and distinguish original portions of wall paintings from recent repainting.

A few areas were examined. Area Ger_dn_n (from the north wall of Margaret of Bavaria’s dressing-room) was selected because it contains traces of original paint stratigraphy with “metal foils”. It is painted over the stone and includes a large area of fill (Fig. 9).
The raking visible light image (rak) clearly shows the difference between the smooth part filled and repainted (corresponding to the stem and leaves of the thistle) and the rough chiselled original surface of the stone where the upper part portion of the thistle is painted and where traces of original painting remain. The portion of paint over the fill is obviously non-original and this helps to identify non-original paint over original plaster. Infrared reflected light image (IRr) shows in lighter grey the parts (corresponding to the stem and leaves of the thistle) which have been repainted over the fill. The corresponding infrared false colour (IRfc) shows these repainting in a light purple false colour. This same colour is clearly visible on most of the surface photographed, even on the upper part which is over the original surface, confirming the extent of repainting. The image of the UV-induced fluorescence indicates a weak fluorescence possibly corresponding to remains of original paint.

Area m1 (Fig. 9) was further examined using micro-technical photography (Fig. 10a). The yellow fluorescence observed under UV radiation at 366nm has been used to locate the presence of linseed oil usually combined to “gold” remains as it seems to be shown on Fig. 10b and 10c⁶. These different hypotheses have now to be confirmed through analytical work.

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⁶ The use of UV radiation at 366nm has been used extensively by Mounier³ (2010) during her survey of medieval wall paintings in South-West of France. Any yellow fluorescence observed corresponds to the presence of linseed oil combined to lead white that are the main constituent of the gilding paste on which metallic foils (gold, silver or tin) are applied.
Fig. 10: Micro-technical photography of the thistle of Margaret of Bavaria’s dressing-room examined in fig. 9. Closer view with remains of the original paint layer (a); possible remains of linseed oil that fluoresces under UV radiation (b) and remains of “gold” (c) © Francesca Piqué.

The “metallic” top layers are difficult to visualise except when using raking light. Another way is to scan the wall paintings using structured light imaging (SLI) (Fig. 11).

Fig. 11: SLI of the teasel represented on fig. 9. Equipment used (a), imaging in progress (b) and result obtained (c). © Mounir Haddadi.

11. Potential interdisciplinary value of research carried out and any other comments

The list of contributors shows the interdisciplinary character of the GERMOLLES case study. The physicists involved in the project and specialised in spatial and spectral imaging will be assisted onsite by the co-managers of Germolles’ palace. One of them is the proposer (conservation scientist). The second co-manager is Matthieu Pinette, art historian and owner of the château with his family.

Furthermore some contributors are both specialists of their imaging techniques and the conservation of wall paintings. Dr. Aurélie Mounier, French expert of metallic remains on medieval wall paintings has as well joined the project.

Bachelor students from the Scuola universitaria professionale della Svizzera italiana (SUPSI – Lugano), one of the 4 conservation schools in Switzerland, specialised on historic buildings, will contribute to the project through the Architectural Paint Research (APR) course given at Germolles in Autumn 2014 and will benefit from the different experts involved in the project. Furthermore Julien Guery, PhD student of the University of Burgundy, plans to use Germolles’ wall paintings as a case study of his research project.

One small company (Captair) specialised on spatial imaging techniques and interested in extending its expertise to spectral imaging techniques is involved as well in the project and should benefit from the comparative work carried out all along the project both on spatial and spectral imaging techniques.
12. Detailed schedule of proposed work with explanation how each phase is to be funded.

Section 8 table is completed by the funding of each of the phases of the work planned.

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<td>Re-examination of 1989 samples with EDS-SEM at LRMH (V. Detalle).</td>
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<td>Analysis of micro-samples by LRMH (V. Detalle) and IRPA (J. Sanyova).</td>
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<td>Additional multispectral imaging by IRAMAT-CRPAA (A. Mounier).</td>
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<td>2015</td>
<td>IR thermography and LIBS by LRMH (V. Detalle).</td>
</tr>
<tr>
<td>COSCH / Sarl Germolles / CAPTAIR / SUPSI / Le2i (internal funds)</td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>COSCH Training school with COSCH trainers (CAPTAIR, Le2i and SUPSI) and end-users.</td>
</tr>
<tr>
<td>COSCH / Sarl Germolles /?</td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>Additional COSCH STSM3 to complete the imaging process of Germolles wall paintings.</td>
</tr>
<tr>
<td>COSCH / Sarl Germolles /?</td>
<td></td>
<td></td>
<td></td>
<td>2016</td>
<td>2nd COSCH WG4 / WG5 taskforce meeting to evaluate the outcomes of the project.</td>
</tr>
</tbody>
</table>
Research activities with the French scientific collaborators will be partly funded by the Burgundian Region. The contribution of COSCH is indicated in blue.

The indicative funding breakdown of the GERMOLLES project is given below:

<table>
<thead>
<tr>
<th>Contribution</th>
<th>Funding</th>
<th>Amount (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collaborators</strong></td>
<td>Sarl Germolles / SUPSI / LRMH / Le2i / IRPA / CAPTAIR / IRAMAT-CRPAA</td>
<td>29.555</td>
</tr>
<tr>
<td><strong>Regional funds</strong></td>
<td>Regional Direction for Cultural Affairs of Burgundy</td>
<td>20.000</td>
</tr>
<tr>
<td><strong>COSCH</strong></td>
<td>2 STSMs: 1100€ x 2</td>
<td>2200</td>
</tr>
<tr>
<td></td>
<td>Training school</td>
<td>14.000</td>
</tr>
<tr>
<td></td>
<td>2 WG4 and WG5 taskforce meetings</td>
<td>8000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>73.755€</strong></td>
</tr>
</tbody>
</table>