

Short Term Scientific Missions

COMULIS – Correlated Multimodal Imaging in Life Sciences

The Action aims at fueling collaborations in the field of correlated multimodal imaging (CMI), promoting and disseminating its benefits through showcase pipelines, and paving the way for its technological advancement and implementation as a versatile tool in biological and preclinical research. CMI combines two or more imaging modalities to gather information about the same specimen. It creates a composite view of the sample with multidimensional information about its macro-, meso- and microscopic structure, dynamics, function and chemical composition. Since no single imaging technique can reveal all these details, CMI is the only way to understand biomedical processes and diseases mechanistically and holistically. CMI relies on the joint multidisciplinary expertise from biologists, physicists, chemists, clinicians and computer scientists, and depends on coordinated activities and knowledge transfer between academia and industry, and instrument developers and users. Due to its inherently multidisciplinary and cross-functional nature, an interdisciplinary network such as this Action is indispensable for the success of CMI. Nevertheless, there is currently no European network in the field. Existing scattered efforts focus on correlated light and electron microscopy or (pre)clinical hybrid imaging. This Action will consolidate these efforts, establish commonly-accepted protocols and quality standards for existing CMI approaches, identify and showcase novel CMI pipelines, bridge the gap between preclinical and biological imaging, and foster correlation software through networking, workshops and open databases. The network will raise awareness for CMI, train researchers in multimodal approaches, and work towards a scientific mindset that is enthusiastic about interdisciplinary imaging approaches in life sciences.

Objectives

COMULIS' STSMs will strategically contribute to the Action's scientific aim of maximizing image-based research outputs by enabling 1) collaborations on innovative CMI methods, 2) access to CMI technology for scientists lacking them locally, and 3) knowledge transfer to support careers and regional development. Action members are encouraged to promote their projects to potential STSM applicants thus encouraging collaboration between institutions whilst strengthening the Actions outputs and network.

These Missions are aimed at supporting individual mobility, strengthening the existing networks and fostering collaborations by allowing (i) Early Career Investigators (ECIs) and also (ii) experienced Imaging Scientists to visit an institution, laboratory or industry in another participating COST Country or an approved non-COST country institution.

STSMs will be offered on regular competitive calls throughout the duration of the COST Action CA17121 (COMULIS), from November 2018 until April 2022.

Applicant – Who is eligible to take part in STSM?

Coordinate two innovative Short-Term Scientific Missions (STSMs) programs for individual:

- **Early Career Investigators (ECIs) and PhD students,**
- **Experienced Imaging Scientist,**

to visit an institution, laboratory, facility or industry in another participating COST Country or an approved non-COST country institution. Thus, bringing together researchers of different scientific backgrounds within international multi-disciplinary projects will increase the potential for scientific breakthroughs, high-impact publications, creation of new research fields, building of interdisciplinary activities and creating collaborations that may not currently be represented by the local imaging community.

STSMs are not available to BSc/MSc students.

STSMs for ECIs will focus on selecting excellent projects where potential scientific breakthrough and competitiveness are clearly impaired by the lack of CMI means (knowledge), while ***STSMs for experienced Imaging Scientist*** will focus on the transfer of specific technology and skills between the facilities or facilities and companies/SMEs.

An applicant can be considered as being an ***ECI*** when the time that has elapsed between the award date of the applicant's PhD and the date of the applicant's first involvement in the ***COST Action CA17121*** does not exceed 8 years. ***PhD students*** are also eligible to partake in STSMs. Other applicants must be employed by or affiliated to an institution or legal entity which has within its remit a clear association with performing scientific research.

STSMs: Eligible “Home and Host” combinations

Applicant and Host Institution – The applicant must be engaged in an official research program as post-graduate student, postdoctoral fellow or research staff, or can be employed by, or affiliated to, an institution or legal entity, which has within its remit a clear association with performing research.

The following table shows the scenarios available to eligible STSM applicants:

HOME Institution	HOST Institution
From a Participating COST Country	To ANOTHER Participating COST Country
	To an Approved NNC* Institution
	To an approved IPC** Institution
	To an approved European RTD*** Organisation
From an approved NNC* Country	To Participating COST Country
From an Approved RTD*** Organization	To Participating COST Country

* NNC: Near Neighbor Countries that have been approved by COMULIS Management Committee

** IPC: International Partner Countries that have been approved by COMULIS Management Committee

*** RTD: Any intergovernmental scientific research organization that is responsible for infrastructures and laboratories whose members are countries, and the majority of which are COST Member Countries or Cooperating State (e.g. EMBL, CERN)

A COMULIS Host Labs: *ANY Lab can become a Host lab by successfully executing a STSM!* Host labs can be located anywhere in COST countries who have signed the MoU of the Action, and in few other locations in International Partner Countries. Applicants typically agree with the lab of their choice to host the mission. Please, note that the applicant is responsible for choosing and contacting the Host institution and for organizing the application process.

The STSM is not targeted to "full service" in CMI, but should rather support scientists in a collaborative way to develop tools and knowledge to perform their own work in CMI.

Interaction with the Host labs is not expected to be full time during the Mission, the applicant is expected to work independently on the project for an important part of the stay.

The scientific context of STSMs should be strictly limited to Correlative Multimodal Imaging involving development of Image technology and/or knowledge transfer in the field of Life Science. Any Exception will require very strong scientific justification and workplan description.

The STSM Grant

Funding, Execution and Duration – STSMs can have a duration of between 5 days and 90 days (and up to 180 days if the applicant is an ECI). The financial support on offer is a contribution to the overall expenses incurred during the STSM and may not necessarily cover all of the associated costs. Financial support is limited to cover travel, accommodation and meal expenses and is paid in the form of a Grant. The cost of research materials is not eligible for consideration as part of the grant.

The following funding conditions apply and must be respected: A STSM grant usually covers travel and subsistence costs. The financial support granted by a STSM is a contribution to the costs of the project/mission and may not necessarily cover all the costs. The STSMs duration is minimum one week (5 working days) and maximum 90 days. In general, grants will represent an average contribution of about 1500 Euros from COMULIS to the applicant; and the maximum defined by COST is 2500 Euros. Special provisions may apply for Early Career Investigators, STSMs duration between 91 & 180 days and max. 3500 Euros. ***Check the full description and the COST Vademecum for exact conditions.*** STSMs must occur in their entirety within the dates specified in the Grant Period published in the respective Action call.

Please, note that the STSM grant will be paid to the successful applicants on completion of the STSM and after evaluation of the STSM report. If the applicant is from an Inclusiveness Target Country (ITC), (s)he can apply for a pre-payment of 50% of the Grant. The applicant must keep in mind that the transfer of the 50% of the Grant can only take place after the mission has started and as such, requesting a pre-payment is more effective for STSMs longer than 1 month.

Registration and deadlines – The Applicant must use the on-line registration and operation of STSMs: <https://e-services.cost.eu> Applications may be submitted according to the schedules stipulated by the MC of the relevant Action, bearing in mind that delays must be considered for the assessment and administrative procedures. The application together with the STSM coordinator should arrive at the COST Office at least 3 weeks before the mission starts.

Please, note that failure to submit the scientific report within 30 days from the end date of the STSM will effectively cancel the Grant.

COST can request additional information to substantiate the information contained within the documents submitted by STSM applicants.

STSMs selection criteria

The selection of applicants is based on the scientific scope of the STSM application which must clearly comply with the overall objectives of the Action, considering always the combination of two or more imaging modalities to gather information about the same type specimen. Applications that contribute to the fulfillment of the Action deliverables will be given priority. Applications which advance the overall

objectives of COMULIS will be also considered on their merit and contribution, as far as the STSM funding is available. Action members are encouraged to promote their projects to potential STSM applicants thus encouraging collaboration between institutions whilst strengthening the Actions outputs and network.

STSMs selection criteria

1. The application serves the **goal of fostering collaboration** in the field of Correlative Multimodal Imaging (CMI), in particular, establishing new scientific contacts.
2. The STSM serves for the **exchange of know-how**, meaning that researchers either exchange expertise due to the planned scientific visit, get practical skills by learning unique “technology” not available in their home institution and/or learn new theoretical methods or experimental approaches
3. The **scientific quality** of the proposed STSM is high, its timeliness is justified, and the work plan for its realization is well founded.
4. The application should be **financially justified** meaning that the estimate of expenses is reasonable.

The final selection of the applicant is the responsibility of the STSMs coordinator and the Chair of the Management Committee of the Action (MC mandate on 12th October 2018).

CORE (for all applications)

Relevance of the STSM goals with COMULIS objectives	25 %
Relevance of the Host Lab's expertise to support the STSM goals	15 %
Realistic goals of the project as compared to its targeted duration	20 %
The STSM serves the goal of fostering collaboration in the Field Correlative Multimodal Imaging	10 %

Subcategory (A or B)

A: Life Scientists evolving in Imaging Facilities: Potential for dissemination and technology transfer back at home country. The STSM serves for the exchange of know-how	30 %
B: Life Scientists evolving in a research Lab: Potential for publication and/or dissemination of the results. Scientific relevance and timeliness of the proposed STSM	30 %

Criteria considered for final decision after evaluation

If the applicant was involved in a previous COMULIS STSM
Geographical distribution of applicants across the same STSM call
If applicant is Early Career Investigator or PhD student
Gender balance across the same STSM Call

The above criteria approved by the MC will be communicated in advance to all potential applicants through the Webpage of the Action: www.comulis.eu

Criteria for Assessment of Applications

The proposal should show clear evidence of how the proposed STSM will benefit both the COMULIS and the Applicant. The proposal will be assigned to one of the following categories:

1. **Very poor:** proposal illogical and not understandable. Not clearly linked to any WG; outside the scope of COMULIS objectives (Score 1)
2. **Poor:** proposal with limited understanding, planning and no clear objectives. Weakly linked to at least one WG and COMULIS objectives (Score 2)
3. **Fair:** proposal with some understanding, planning and objectives. Moderate links to at least one WG; Well linked to COMULIS objectives (Score 3)
4. **Good:** good proposal but needs input to develop feasible STSM. Well linked to at least one WG and COMULIS objectives (Score 4)
5. **Excellent:** proposal well designed in terms of planning, feasibility and projected outputs. Strongly linked to at least one WG and COMULIS objectives (Score 5)

A proposal can reach a maximum score of 5 (average). The proposals will be ranked and those with the highest scores will be financed, subject to the duration of the STSM applications and the available budget. The results will be published in the COST Action website. In case of rejection, the STSM coordinator will inform the Applicant

Application Procedure for the STSMs

Within **COST Action CA17121**, applications should be submitted according the procedure detailed below:

Step 1 – Formal agreement and on-line registration by the applicant

1. Obtain the written agreement of the host institution, before applying.
2. The applicant encodes an STSM application by logging into e-COST: <https://e-services.cost.eu/> and clicking on the STSM application tab
3. The Applicant must use the on-line registration tool to register their request for an STSM, at least 3 weeks before the beginning of the STSM

Step 2 – Formal STSM application and annexes

After encoding the information and pressing the “submit” button the online registration tool will issue a formal STSM application that will reach immediately the STSM coordinator. The Applicant must submit by e-mail the supporting documents include an STSM proposal (described below), CV, list of publications, motivation letter, letter of support from the home institute, letter of support from host institute) to the STSM coordinator:

- Detailed work plan / project description
- Curriculum Vitae with list of publications (if applicable)
- Motivation letter
- Letter of support from the HOME institute
- Letter of support from the HOST institute

If the STSM coordinator wishes to approve the application, the STSM coordinator must confirm that the Workplan is in line with the Action's objectives, decide the level of the Grant that can be awarded, and confirm that the supporting documents are valid.

Step 3 – Assessment of the STSM

Upon each STSM Call Closing date, the COMULIS STSM Evaluation Committee will perform the scientific and budgetary assessment of the applications considering the Action objectives and the previously defined evaluation criteria. The committee will also define an acceptable funding level for the approved applications. ***The amount of the awarded Grant can never be higher than what the applicant requested.***

If the application is rejected, the STSM coordinator must provide a justification to guide the applicant in her/his resubmission.

Step 4 – Approval from the STSM coordinator and Chair of the Action

The STSM coordinator and Chair informs the COST and the Grant Holder that the proposed STSM has been approved.

Formal Report after the STSM

Successful applicants must submit a scientific report to the Host Institution and to the STSM Coordinator within 30 days from the end date of the STSM, and they will be responsible for acquiring from a senior researcher affiliated to the Host Institution confirmation of formal acceptance of the scientific report.

The report should describe:

- Purpose of the visit (Statement of the project aim(s) and objectives)
- Description of the work carried out (Describe the work that was undertaken)
- Description of the main results obtained (Describe the main outcomes of the work)
- Future collaboration with host institution (Describe any likely follow-on work with the host institution arising from the visit- if applicable)
- Projected publications/articles resulting or to result from the STSM (Mention any publications that may arise from the visit - if applicable)
- Confirmation by the host of the successful execution of the mission (Provide a brief affirmation by the Host researcher -with their signature- that the STSM was carried out successfully. It can be included in the report or as a separate accompanying document)
- Other comments (if any)

Applicants are required to submit to the MC Chair, and STSM coordinator the report within 1 month of the STSM visit. No payment will be made from the COST Office until this report is submitted. The scientific report will also require the approval of STSM Coordinator in order to affect the payment of the Grant.

Publications resulting from STSM activities should acknowledge COST Action CA17121 (COMULIS) support.

Successful applicants will be asked to submit a brief of the STSM outputs for the Action's website describing in summary the scientific report which will also be made available online, and be prepared to participate in the Action's events with a poster about their STSM when applicable or when requested by the STSM coordinator.

For dissemination purposes, the successful applicants will be required to prepare

A brief for the Action's website to include the following:

- Name:
- Institution:
- Research Interest: (one sentence)
- Summary of research completed in STSM: (<400 words)
- Synthesis and application [of research?]: (<100 words)
- Wider benefit of the STSM to the participant: (<200 words)
- Key Outputs
- If possible, include a photograph of you alongside your collaborators and a short quote describing your experience

A Poster on the STSM when attending Action events or when called upon by the Action Chair or STSM Coordinator