



COST Action CA20117

Converting molecular profiles of myeloid cells into biomarkers for inflammation and cancer

Call for Applications to Short-Term Scientific Mission

Application deadline: 2nd June 2023

Send applications to: Dr Annika Bruger, Grant Awarding Coordinator
annika.bruger@uclouvain.be

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Short-term Scientific Missions (STSMs) in brief:

- Travel/mobility grants to visit a foreign research institution to conduct short scientific activities that further the COST Actions goals
- *Note: COST does NOT offer STSM grants to an institution within the SAME country*
- Researchers (incl. PhD students) from countries participating in the Mye-InfoBank COST Action
- **This call:**
 - WG 1
 - Establishing a computational pipeline for single-cell atlas curation
 - 10-16 September 2023
 - Technical University of Munich, Freising, Germany

What are STSMs?

Short-term Scientific Missions (STSMs) are exchange visits for researchers within their Action. This exchange programme facilitates individuals – especially Young Researchers under the age of 40 - to conduct scientific activities at an institution or laboratory based **in a different country**, which is also part of the Action. STSMs are great opportunities for researchers to share techniques and gain skills that may not be available at their home institution or laboratory.

STSMs in Mye-InfoBank should specifically contribute to the scientific objectives of the COST Action (please also refer to Memorandum of Understanding (MoU)).

WG 1 | STSM

CALL – Establishing a computational pipeline for myeloid-focused single-cell atlas curation

Host Institution: Technical University of Munich, Germany

Supervisor/Coordinator: Markus List

Instructors: Markus List, Florent Petitprez

Timeframe: 10th September to 16th September 2023

Attendees: On-site: 4x WG1 members + 1x instructor

Purpose:

Guided by current best-practices in single-cell RNA-sequencing (scRNA-seq) data analysis, we will put together a pipeline to integrate and re-annotate multi-study scRNA-seq data to curate disease-focused single-cell atlases with a focus in particular on myeloid cell annotation. As test cases, we will use single-cell datasets from breast cancer and inflammatory bowel disease (IBD) already selected by the WG1 single-cell working groups; additional datasets could be possibly identified by instructors and participants prior to this STSM and be integrated in the analysis.

We plan to start from preprocessed scRNA-seq data (i.e., raw gene counts) and assemble a pipeline to perform: 1) data integration, 2) qualitative and quantitative assessment of data integration quality in terms of batch effect removal and conservation of biological information, and 3) cell-type annotation. If possible within the envisioned time frame, a preliminary deconvolution analysis will be performed on external bulk/spatial transcriptomics to assess the value of the curated atlases for scRNA-seq-informed deconvolution.

Tasks:

It is our aim to assemble a computational pipeline for the curation of single-cell transcriptomic atlases from scRNA-seq data.

Selection Criteria:

WG 1 members: Expertise in bioinformatics with a strong focus on scRNA-seq data analysis and integration. Preferably prior experience on *in silico* cell type deconvolution.

Requirements:

- **Availability from September 10th until September 16th, 2023.**
- Notebook / laptop and skills in R / Python to engage in data processing and application of *in silico* cell type deconvolution tools, plotting of results.
- WG 1 members should have selected and uniformly preprocessed candidate data sets ready for analysis BEFORE the STSM.

www.mye-infobank.eu

mye-infobank@uk-essen.de

Grant Awarding Coordinator: Dr Annika Bruger, annika.bruger@uclouvain.be

Expected Outcome:

Based on our work during the STSM, we will implement a computational pipeline for the curation of multi-study single-cell atlases from scRNA-seq data. The pipeline will be made available via GitHub to the Mye-InfoBank community to facilitate the curation of myeloid atlases in DACI performed by WG1, with the support of WG2 and WG3.

STSM Application Form

(Do not exceed one page. Return to GAC Annika Bruger, annika.bruger@uclouvain.be)

Title: Advancing in silico myeloid cell deconvolution from bulk transcriptomics

Application Deadline: June 2nd, 2023

Applicant Name: _____

Affiliation: _____

Working group(s): _____

In-person: _____

Expertise:

Motivation:

Who is eligible?

The STSM applicant must be engaged in an official research programme as a PhD Student or postdoctoral fellow or can be employed by, or affiliated to, an institution, organisation or legal entity which has within its remit a clear association with performing research.

The STSM application will be evaluated and selected based on the following criteria:

- Excellence of the written proposal.
- Geographical and gender balance issues are taken into consideration and ECIs will be privileged.
- Priority is given to applicants from inclusiveness target countries, but others will be considered as well.
- The country of origin and the host country must be members of the Mye-InfoBank network (not the host or origin institution).

The application will then be assessed by the formally delegated persons in the Core Group against the perceived contribution that the proposed visit will make against the scientific objectives outlined in the Action's Memorandum of Understanding.

Financial support

On-site participants of this STSM from countries other than Germany will receive a grant of **EURO 1000,-** towards **travel, accommodation and meals**.

How to apply?

To apply, fill out the application form and return it to the Grant Awarding Coordinator, Dr Annika Bruger by email (annika.bruger@uclouvain.be).

Selected applicants will be notified and receive further instructions.

After the STSM

After completion of the STSM, the grantee is required to submit the following documents to the E-COST platform within 30 days:

- Scientific report, including:
 - Purpose of the STSM
 - Description of the work undertaken
 - Description of the main results
 - Future collaborations or other output resulting from the STSM
 - Template: http://www.cost.eu/STSM_report_template

- The STSM host's approval of the report.

The submission of the supporting documents is mandatory or the Grant is cancelled. Late submission, beyond the deadline, can also lead to the cancellation of the Grant and, in cases when a pre-payment was done, the obligatory reimbursement by the grantee of the amount received.

A scientific report template is available on the Supporting documents page or on-line here: http://www.cost.eu/STSM_report_template The STSM grantee must complete this template and save it in pdf before uploading it in e-COST. The host approval of the report can be an email confirming that the STSM took place and the goals outlined in the Work plan were reached.

Grantees may be asked to write reports of the STSM for the Mye-InfoBank website or to present the results of the STSM within the Mye-InfoBank network.