



## 2nd Call for Short-Term Scientific Missions (STSMs) and Virtual Mobilities (VMs)

**Closing date: 15/05/2025**

This is the 2<sup>nd</sup> call for applications for Short-Term Scientific Missions (STSMs) and Virtual Mobilities (VMs) funded by COST Action CA23104 [Mainstreaming water reuse into the circular economy paradigm \(Water4Reuse\)](#).

Water4Reuse addresses the challenges of safe and effective water reuse to deal with water scarcity in an integrated manner and promote water circularity, making use of an interdisciplinary and cross-sectoral approach, under territorial, health, social, economic, regulatory and environmental constraints.

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### 01: STSMs and VMs

**STSMs** enable short research and study visits to a research institution or laboratory in another country to strengthen the network and foster collaboration, learn a new technique, or use equipment, data, and/or methods not available in the applicant's own institution, and contribute to the scientific objectives of the Action. STSM grants provide a contribution towards travel, accommodation and subsistence expenses, and implementation of the task.

**VMs** enable virtual collaboration among researchers or innovators within the COST Action, to exchange knowledge, learn new techniques, and contribute to the scientific objectives of the Action. VM grants provide a contribution towards implementation of the task.

STSM and VM grants are available for researchers and innovators affiliated with a legal entity in a Full Member Country, Cooperating Member Country, Near Neighbour Country, or European RTD Organisation. Young researchers and innovators (<40 years old) and those from Inclusiveness Target Countries are strongly encouraged to apply. Consult the [Country and Organisations Table](#) for eligibility.

## 02: Guidelines for applicants

**STSM grants** support international travel. Grants are a contribution towards the costs of travel, accommodation and subsistence, for which grantees will need to make their own arrangements. The duration of the visit should be at least 5 working days (plus 2 days for travel) and up to 90 days. STSMs must be completed within a single Grant Period and within the Action's lifetime. **The maximum amount awarded for an STSM is €3000.** The amount will reflect the duration and location of the STSM. For guidance on the cost of living in the host country consult the COST [Daily Allowance Rates](#). Applicants are also requested to consult the [Annotated Rules for COST Actions](#).

**VM grants** support virtual collaboration. The duration of the task should be at least 5 working days. VMs must be completed within a single Grant Period and within the Action's lifetime. **The maximum amount awarded for an VM is €1500.** The amount will reflect the duration, scope and complexity of the task and activities to be covered.

Water4Reuse is organized into 5 scientific Working Groups (WG1–5, WG6 being excluded from this call). STSMs and VMs are considered a great opportunity for participants to focus their work on research topics that have been highlighted by WGs or to introduce new ideas addressing the Action's objectives. Details on the content and goals of WGs are available in the Action's [Memorandum of Understanding \(MoU\)](#). Up-to-date information on the progress of the Action can be found on the [Water4Reuse website](#).

The coordination of STSMs and VMs is carried out by a supervisor. The supervisor oversees all the activities in the working plan and verifies and pre-approves all documents (report, deliverables, etc.). STSM and VM opportunities with a pre-defined topic already have a supervisor assigned. In all cases applicants must contact the supervisor and procure a letter confirming their agreement to act in that capacity. For STSM applicants the letter must confirm the agreed dates of travel and the period of the visit.

**Awards will be limited to one STSM or one VM grant per applicant per call.**

**The STSM or VM must take place between 01/06/2025 and 30/09/2025.** Applications should be submitted by 15/05/2025. Decisions will be announced a few days after the deadline.

## 03: Application instructions

Applications for grants are managed through the e-COST management tool. All applicants must have an [e-COST profile](#).

The applicant must use the e-COST management tool to register the STSM or VM application request. In addition to the information entered at the website, the applicants should also upload the following documents in a single PDF file:

- Short CV including recent publications

- [STSM proposal](#) or [VM proposal](#)
- Requested budget in €
- Confirmation letter from the STSM/VM supervisor

For additional information on the submission via the e-COST system, see the [Grant Awarding User Guide](#).

#### 04: Evaluation of applications

Each proposal will be assessed independently by the Water4Reuse Grant Awarding Committee, and an evaluation score will be given based on:

- (i) the clarity of the proposal (25 points)
- (ii) the degree to which the STSM/VM complements or contributes to the Action strategic priorities and objectives as defined in the MoU (25 points)
- (iii) the compliance of the proposed work plan with the timing of the deliverables of the Action according to the MoU (25 points)
- (iv) work plan feasibility and outputs (25 points)
- (v) the ability of the applicant to successfully complete the proposed STSM/VM and disseminate relevant outputs (25 points) and
- (vi) the added value to the ongoing work in the WGs (25 points)

The proposal should show clear evidence of how the proposed STSM/VM will benefit both the applicant and the Action. The proposal will be assigned to one of the following categories:

- Very poor: proposal unsound and incomprehensive. Not clearly linked to any of the WGs (0-25 points)
- Poor: proposal with limited understanding, planning, and unclear objectives. Weakly linked to at least one WG (26-50 points)
- Fair: proposal with some understanding, planning, and objectives. Moderately linked to at least one WG (51-75 points)
- Good: good proposal but needs input to develop a feasible STSM/VM. Well linked to at least one WG (76-100 points)
- Very good: very good proposal, with minimal inputs needed in terms of feasibility. Very well linked to at least one WG (101-125 points)
- Excellent: proposal well designed in terms of planning, feasibility, and expected outcomes. Strongly related to at least one WG (126-150 points)

A proposal can reach a maximum score of 150. The proposals will be ranked and those with the highest scores will be granted. If proposals have the same score, preference will be given to those from YRI and/or applicants from ITC countries, and to candidates who have not previously received funding from the Water4Reuse COST Action.

## 05: Reporting and payments

STSMs grantees from ITC countries may request up to 50% pre-payment of the approved grant. This amount is subject to availability of funds and approval by the Grant Holder Institution. The request of pre-payment shall be submitted to the Grant Holder Manager.

Once the STSM/VM has ended, the grantee must submit a short report on the outcomes. The [STSM report](#) or [VM report](#) needs to be submitted within 30 days after the end date of the STSM/VM or 15 days after the end of the Grant Period (whichever date comes first). Please note that if the grantee does not submit the required report on time, the grant will be cancelled. The grant payment is expected to be deposited within 30 days after the approval of the report.

Additionally, after the completion of the STSM/VM activities the grantee is encouraged to participate in dissemination activities related to the work developed during the period of the grant, such as testimonies, blogs, and/or reports about the activities undertaken.

## 06: STSM and VM topics

<b>STSM Topic 1:</b> Development of a soft sensor for data driven safe treated wastewater management (WG 2)
STSM goal: The research will focus on the development of a new soft sensor for real-time water quality monitoring based on data collected from the literature and ongoing EU-funded or monitored full scale case studies, including treatment efficiencies and contaminant occurrence.
Description: The research will contribute to D2.1, promoting WG collaboration and networking. Digital skills for data processing and knowledge of water infrastructure operation are needed. The experimental work will be in the WVEELab and refer to the 3-5 full scale case studies in which the UNIVPM (host institution) is involved. The literature review will be conducted before secondment. The grantee will produce a journal paper on tools to evaluate robustness and capability of treatment trains to be operated and monitored online and remotely in a centralized or decentralized approach.  Highly motivated PhD students, post-docs, young and senior researchers are invited to apply. The secondment should be for a minimum of 1 month and a maximum of 3 months.
Host institution: Marche Polytechnic University – Department of Science and Engineering of Matter, Environment and Urban Planning (SIMAU) – WVEELab (Water and Waste Environmental Engineering Lab) ( <a href="#">WVEELab Research Group - Università Politecnica delle Marche : Company Page Admin   LinkedIn</a> )
STSM supervisor: Francesco Fatone ( <a href="mailto:f.fatone@univpm.it">f.fatone@univpm.it</a> )

<b>STSM Topic 2:</b> Modelling and control pilot and full-scale treatment plants for the integration of technologies to achieve challenging water reuse standard (WG 2)
STSM goal: The goal is to test the efficiency of integration of new (technological and/or nature-based) treatment technologies in achieving water reuse standards and CEC remediation, in particular secondary, tertiary and quaternary, that can be included in a scenario of reuse, providing new data for the definition of the multi-barrier approach.
STSM deliverable: Journal paper and data sheets
Description: This research will contribute to D2.3. Highly motivated PhD students are invited to apply. The secondment should be for a minimum of 1 month and a maximum of 3 months.

Host institution: Marche Polytechnic University – Department of Science and Engineering of Matter, Environment and Urban Planning (SIMAU) – WVEELab (Water and Waste Environmental Engineering Lab) ([WVEELab Research Group - Università Politecnica delle Marche : Company Page Admin | LinkedIn](#))

STSM supervisor: Francesco Fatone ([f.fatone@univpm.it](mailto:f.fatone@univpm.it))

**VM Topic 1:** Mathematical modelling of human health risk assessment from the reuse of treated wastewater (WG 4)

VM goal: This virtual mobility aims to provide a comprehensive overview of the mathematical methods employed in risk assessment for water reuse from Wastewater Treatment Plants (WWTPs). The candidate's research should directly contribute to Task 4.1 “Review of State of the Art of current models, compilation of criteria and measures of impacts, review of modelling and data analysis methods for risk assessment, compilation of treatment systems models and available simulation platforms”.

VM deliverable: A review report on modelling methodologies to assess human risks from the reuse of treated wastewater. The material of the work should contribute significantly to deliverable D.4.1. In addition, it could be used in presentations and workshops.

Description: This virtual mobility aims to enhance the participant's expertise in mathematical modelling and quantitative risk assessment for the reuse of treated urban wastewater. The primary focus will be on modelling the risks associated with Chemical Contaminants of Emerging Concern (CECs), Priority Organic Pollutants (POPs), and pathogenic microorganisms. This VM emphasizes the critical role of systematic mathematical risk modelling, grounded in comprehensive data collection and a thorough review of relevant literature. Examples of key mathematical methods used for risk analysis of treated wastewater in human health include:

- Quantitative Microbial Risk Assessment (QMRA): Evaluates infection risks
- Probabilistic Risk Assessment (PRA): Combines probability distributions to estimate risk
- Monte Carlo Simulation: Quantifies variability and uncertainty
- Fuzzy Logic: Handles uncertainty and imprecision
- Fault Tree Analysis (FTA) and Event Tree Analysis (ETA): Identify potential failure points and outcomes
- Fuzzy Methods (e.g., VIKOR): Prioritize risk management alternatives
- Failure Modes and Effects Analysis (FMEA): Identify potential failure modes and their impacts

These methods collectively provide a robust framework for assessing and managing the health risks associated with wastewater reuse.

In collaboration with their VM supervisor, the candidate will select a specific area within this broader scope for in-depth study and contribution to the COST Action. Alternatively, candidates may choose to investigate the impact of different treatment scenarios on treated wastewater quality using a single, consistent mathematical methodology:

- Primary Treatment: Simple filtration, coagulation, flocculation, and sedimentation
- Secondary Treatment: Organics/nutrients removal via activated sludge, constructed wetlands
- Advanced Treatment: Adsorption on activated carbon
- Membrane Filtration: Reverse osmosis, nanofiltration, ultrafiltration
- Advanced Oxidation: Ozonation, Fenton's reaction, TiO<sub>2</sub> with UV, UV radiation

Applicants must be PhD candidates, postdoctoral researchers, or scientists actively registered in the COST Action Water4Reuse. Their research should focus on the quantitative modelling of water risk analysis within the context of water reuse. Preferred scientific backgrounds include environmental engineering, chemical engineering, chemistry, microbiology, environmental science, toxicology, or related disciplines. Ideal candidates will possess:

- Strong motivation to contribute to advancements in water reuse modelling
- A solid understanding of risk assessment principles, particularly those related to chemical and microbiological hazards
- Proven modelling skills and familiarity with modelling techniques and tools commonly used in environmental engineering and risk analysis
- Knowledge in probabilistic modelling and the ability to effectively conduct literature reviews and analyse scientific data
- Experience with modelling software such as Mathematica, Matlab, or similar platforms
- Excellent teamwork and communication skills to foster effective collaboration with supervisors and fellow partners within the COST Action

Virtual host institution: The virtual host institution and supervisor will be defined based on the specific research topic chosen by the successful candidate

VM supervisor: The VM will be jointly supervised by the leader (Artin Hatzikioseyan, [artin@metal.ntua.gr](mailto:artin@metal.ntua.gr)) and/or co-leader (Klara Ramm, [k.ramm@igwp.org.pl](mailto:k.ramm@igwp.org.pl)) of WG4

#### **VM Topic 2:** Data quality tools (WG 5)

VM goal: To conduct a comprehensive literature review on data quality pipeline techniques to transform signal data into quality data. Explore various software tools available that facilitate the application of these techniques. Additionally, engage in virtual collaboration with an expert in data quality techniques to deepen understanding and enhance the practical application of these principles.

VM deliverable: Report

Description: This virtual mobility is related to Task 5.4 and Deliverable 5.1 'Protocol for data processing'. Identify and evaluate software tools that support the implementation of data quality techniques. Learn to use these tools and apply them to a specific case study from an ongoing project.

Virtual host institution: The virtual host institution and supervisor will be defined based on the specific data quality techniques chosen by the successful candidate

VM supervisor: The VM will be jointly supervised by the leader Vicky Ruano ([m.victoria.ruano@uv.es](mailto:m.victoria.ruano@uv.es)) and co-leader Anacletto Rizzo ([rizzo@iridra.com](mailto:rizzo@iridra.com))

### 07: Useful links & documents

- [STSM application form](#)
- [STSM report template](#)
- [VM application form](#)
- [VM report template](#)
- [e-COST](#)

- [Daily allowance rates](#)
- [Grant Awarding User Guide](#)
- [Annotated Rules for COST Actions](#)
- [Countries and Organisations Table](#)
- [Water4Resuse COST page](#)
- [Water4Reuse website](#)

## 08: Questions/enquiries

- Scope and aims of the Action: Action Chair – Jérôme Harmand ([jerome.harmand@inrae.fr](mailto:jerome.harmand@inrae.fr))
- STSM & VM calls and eligibility requirements: Grant Awarding Committee – Sarah Milliken ([S.Milliken@greenwich.ac.uk](mailto:S.Milliken@greenwich.ac.uk)), Ester Heath ([ester.heath@ijs.si](mailto:ester.heath@ijs.si)), Olivier Monfort ([olivier.monfort@uniba.sk](mailto:olivier.monfort@uniba.sk))
- Reimbursement process: Grant Holder Manager – Stephanie Harmand ([stephanie.harmand@inrae.fr](mailto:stephanie.harmand@inrae.fr))