

September-October 2026

Dear All,

I am pleased to share the **September – October 2026 Newsletter**.

Inside, you will find reports on the events that took place throughout September - October 2026.

I have also included a content summary of a few events for your information; more detailed versions of all documents are available on the website.

While not exhaustive, I hope it serves as a helpful "snapshot" of where we stand.

We have a busy schedule ahead for the final month activity of the project. Most notably, please mark your calendars for our **General Assembly, 19 October 2026 h15 CET, online**.

Thank you all for your continued collaboration and participation in our events. I look forward to seeing you at our next online meeting.

Please, do not forget to urgently complete the online shared sheet with your publications and other activity and success within our COST Action. This is essential for completing the Final reporting activity of the OHD Action.

https://docs.google.com/spreadsheets/d/1XhbWOcc1Xw45oVP_yD85ITTTHH8fbV0Vr-YAyAr3UVg/edit?gid=0#gid=0

Thanks a lot!

Best regards,

Paola, Anabela and Gulsah

1. Science Festival with European Researchers' Night, 25.09.2026

Celebrating Young Researcher Innovators within COST Action CA21111 OneHealthDrugs during the European Researchers' Night: Scientific Dissemination, Science Communication, Public Engagement and Team Building

September 25, 2026, Navile District, Aula Magna Ue1. via della Beverara 123/1, Bologna



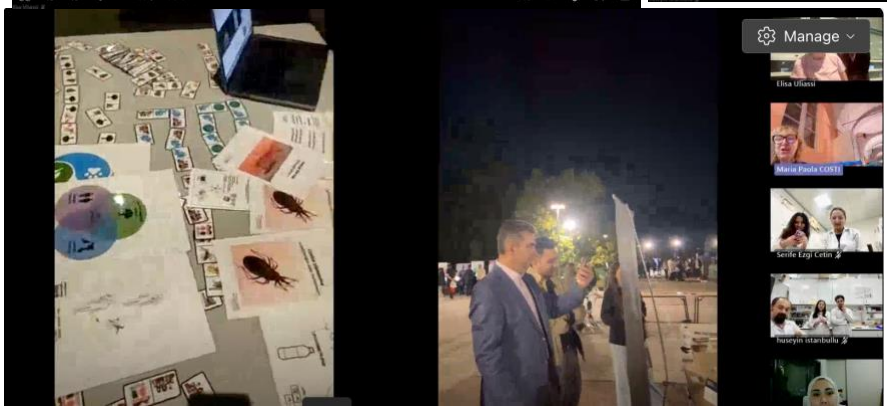
An inspiring hybrid event bringing together the Young Researcher Innovators (YRIs) of COST Action CA21111 OneHealthDrugs to celebrate scientific excellence. This will foster collaboration, and engage with society during the European Researchers' Night. The event has combined scientific dissemination, science communication, public engagement, and team building, providing an outstanding opportunity to present research, exchange ideas, and develop new collaborations across disciplines and countries.

A joint session with the PhD Programme in Drug Discovery and Development of the Department of Pharmacy and Biotechnology (FaBiT), University of Bologna, entitled "Chemistry for a Better Life and a Better Future", featuring two distinguished guest speakers, Prof. Kelly Chibale and Prof. Gianluca Maria Farinola.

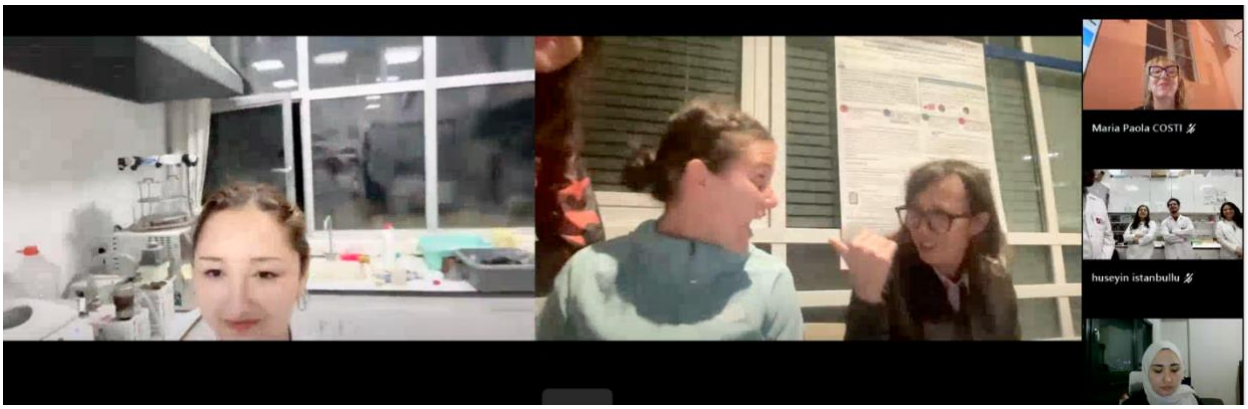
As part of this initiative, parallel outreach activities also took place in partner institutions, creating a shared OneHealthDrugs celebration across multiple institutions. Through the hybrid format, OHD participants from different countries were connected live, allowing them to give pitches and showcase their local European Researchers'; Night activities, while interacting with colleagues throughout the COST network. See summary of the day in the Appendix.


Manage
44:27
44:29 / 1:03:32
1x


Manage
42:21 / 1:03:32
1x

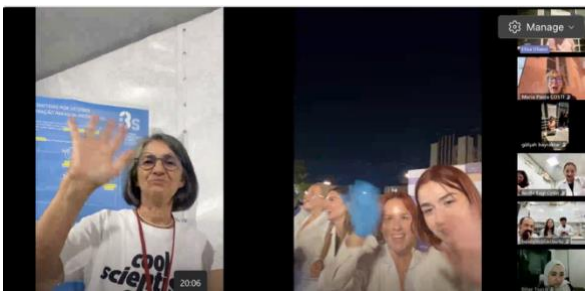

Manage
Elisa Uliassi
Maria Paola COSTI
Serife Ezgi Cetin
huseyin istanbullu

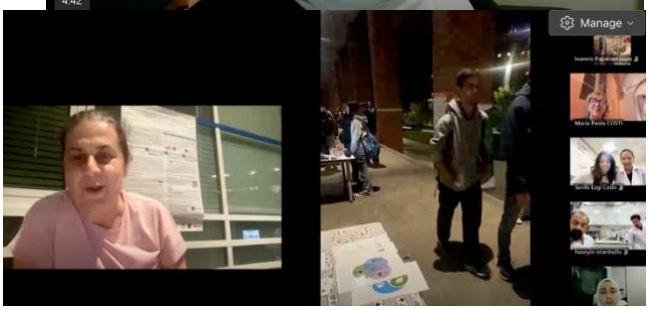

8:07


Maria Paola COSTI
huseyin istanbullu




4:42


Manage
20:06


Manage







Different labs participated from Africa, France, Bologna, Modena, Istanbul, Turkey, Portugual, Greece.
Wonderful evening and night!

2.ENVIRANT Stakeholder meeting
8 September 2026

As Action Chair I was invited to the ENVIRANT COST Action meeting held in Madrid on September 8 to present our Action and propose some collaboration strategies.
You can find below the program and a summary of the outcome.
I thank Maria M Valladares for the invitation to this very interesting meeting.

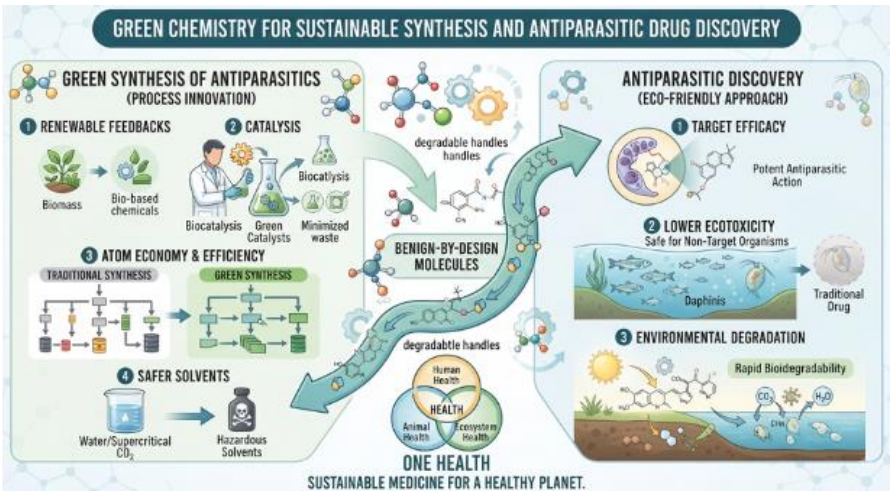
Time	Session	Speaker
9:00–9:30	Registration, coffee and Welcome	María M. Valladares
9:30–9:45	Support parasite control and responsible anthelmintic use	Smaragda Sotiraki
9:45–10:05	EU Water Framework Directive (WFD) and the Regulatory Pathway for Anthelmintic Inclusion	Damià Barceló
10:05–10:25	Anthelmintic Residues in the Environment: Available Data and Monitoring Gaps	Martin Danaher
10:25–10:45	Towards Substance-Specific Environmental Quality Standards (EQS) for Anthelmintics	Damià Barceló
10:45–11:00	Joint Discussion (morning talks)	Damià Barceló & Martin Danaher
10:00–11:15	Environmental Risk Assessment of anthelmintic compounds: is there room for improvement?	Dimitris Karpouzas
11:15–11:45	Coffee break	—
11:45–12:00	Beyond Standard Endpoints: Ecotoxicological Effects on Non-Target Organisms	Bruno Nunes
12:00–12:15	Why veterinary drug authorization needs early environmental screening. Paving the Way for Greener Pharmaceuticals.	Maria Paola Costi
12:15–12:30	Joint Discussion (noon talks)	Bruno Nunes
12:30–12:45	Pharmaceutical Regulation and Environmental Policy: Bridging the Gap	Martin Danaher
12:45–13:00	Environmental residues as a driver of anthelmintic resistance selection?	Philippe Berny
13:00–13:15	From Research to Impact: Translating Science into European Policy	Theo Zacharis
13:15–13:30	Closing — summary of key inputs and next steps	María M. Valladares

Conclusive panel



—------

3. Advancing OneHealthdrugs: Scientific Achievements and Future Perspectives, 2-4.09.2026, University of Malta



The meeting was organized as a day and a half-day workshop on 2 September, titled "Scientific Achievements and Pathways for the Future". This event is part of our thematic meeting focusing on green chemistry topics for antiparasitic drug development.

This thematic workshop convened to address sustainable frameworks for active pharmaceutical ingredient synthesis, prioritizing environmental protection alongside therapeutic efficacy. Key discussions focused on benign-by-design molecular architecture, atom economy, alternative solvent systems, energy efficiency, and the integration of green metrics early in lead optimization to mitigate ecological risks, such as bioaccumulation in non-target organisms.



Presentations showcased scientific achievements and established future collaborative strategies aligned with the One Health paradigm.

The 2 and 3 September is dedicated to open discussions and presentations covering the various topics developed by the OHD COST Action during its final year and reviewing overall achievements. The primary outcomes of the meeting are the completion of reporting documents, deliverables, and publications.

4. WG5 & WG6 Working Group Meeting: Drafting Deliverables and Finalizing Scientific Publications, 24-27.08.2026, University of Glasgow

From August 24 to 27, 2026, key members convened in Glasgow to advance key deliverables and scientific publications as COST Action CA21111 approaches completion. Working Groups 5 and 6 led the drafting and structural refinement of Deliverable 21 (Report on internal coordination of the transfer of knowledge and exploitation plan) and Deliverable 22 (Report on external coordination of the transfer of knowledge and exploitation plan).
Hosted at the University of Glasgow, this scientific meeting successfully produced near-final drafts for Deliverables 21 and 22, alongside research papers focusing on the environmental impacts of veterinary pharmaceuticals (VetMedImpacts) and the final version of the paper on Veterinary Survey.



5. Position paper is published



One of the flagship outputs of OneHealthdrugs Cost Action is the OneHealthdrugs Position Paper / White Paper ("Integrating Ecotoxicity into Early-Stage Drug Development for Parasitic Diseases: A One Health Position Paper"), which consolidates 4 years of interdisciplinary collaboration to deliver a strategic, guideline-like roadmap for researchers, pharmaceutical developers, and European regulatory bodies, ensuring that newly developed antiparasitic agents are de-risked for environmental persistence and toxicity from conception.

We invite you all to check it out at the link below.

Zacharis, T., Gul, S., Nunes, B., Selzer, P., de Koning, H., Carapeto, R., Geurden, T., Serreyn, P.-J., Gemma, S., Lima, C., Chontzopoulou, E., Valladares, M., Bolognesi, M. L., Calogeropoulos, T., Wittig, U., Cordeiro, A., & Costi, M. P. (2026). Integrating Ecotoxicity into Early-Stage Drug Development for Parasitic Diseases: A One Health Position Paper (Version Version 1). Zenodo. https://doi.org/10.5281/zenodo.22035394

Next meetings

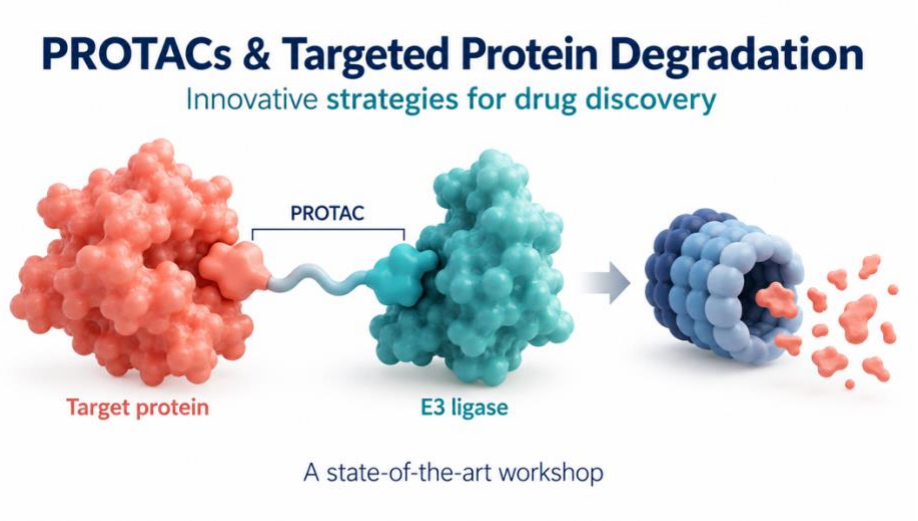
1. General assembly 07.10.2026 – 3pm

The COST Action CA21111 OneHealthDrugs consortium is convening for an online General Assembly to review progress in environmentally sustainable drug discovery against vector-borne parasitic diseases as we approach the end of this Cost Action. Bringing together multidisciplinary experts, researchers and Young Researcher Innovators (YRIs) across medicinal chemistry, parasitology, ecotoxicology, veterinary medicine, and human health, the meeting will address updates from Working Groups (WG1–WG6), compound libraries, target databases, environmental risk assessments, and the translation of scientific outcomes into Position Papers and Policy Briefs to reinforce sustainable collaboration under the One Health framework.

2.Protein Degradation as a cutting-edge approach in drug discovery, application in VBDs and environmental considerations workshop

AGENDA
"Interdisciplinary Workshop on PROTACs"
Co-organized by WG2 and HG4)
October 9, 2026, from 2 pm to 4 pm CET

This workshop will provide a state-of-the-art overview *the workshop will explore PROTACs and targeted protein degradation as innovative strategies relevant to drug discovery*.



October 9, 2026, from 2 pm to 4 pm CET

2:00 – 2:10 Welcome and introduction
2:10 – 2:35 Dr. Cécile Exertier - CNR - Institute of molecular biology and pathology, Rome, Italy
2:35 – 3:00 Prof Eleonora Diamanti - University of Verona, Italy
3:00 – 3:25: xxx - Department of xx
3:25 – 3:50 Prof. Andrea Milelli - Department of Pharmacy and Biotechnology, University of Bologna
3:50 – 4:00 Open discussion and reflections, Conclusions and way forward
Organized by Elisa Uliassi (IT, HG4 Leader), Theodora Calogeropoulou (GR, WG2 leader), Maria Paola Costi (Action Chair), Anabela Cordeiro Silva (Action Vice-Chair

3.Message by Thomas Schmidt

Dear members of COST action CA 21111 “OneHealthDrugs”,
today I have the pleasure to draw your attention to an upcoming virtual scientific conference, the "1st International Online Conference on Molecules" (IOCMO 2027), which will be held on September 27-29, 2027. IOCMO 2027 will be a comprehensive and interdisciplinary online conference organized by the leading Open-Access Journal Molecules (MDPI), designed to reflect all aspects of molecular chemistry. It aims to bring together diverse research communities working in all fields of molecular chemistry and at its frontiers with related disciplines. The scientific program will comprise sessions addressing the full broad range of topics also covered by the Molecules journal, so that it may be of interest to many of you.

For full information, please see the Website at https://sciforum.net/event/IOCMO2027/home and the attached pdf flyer.

On behalf of the conference committee, I cordially invite you, your colleagues and coworkers to participate in this seminal event and contribute with oral or poster presentations.

Furthermore, I would be grateful if you could spread this information among your colleagues and networks to help us reach a maximum of potential contributors. Thank you very much!

Kind regards & best wishes

Thomas J. Schmidt
IOCMO 2027 Chair
Molecules - Editor-in-Chief
Institute of Pharmaceutical Biology
and Phytochemistry
University of Münster
Germany



Appendix

Summary of the Bologna meeting - Science festival 25 September 2026

A Unified Front Against Neglected and Emerging Pathogens

Modern medicinal chemistry is undergoing a quiet revolution. Where drug development once relied on brute-force synthetic runs reliant on toxic organic solvents and scarce chemical building blocks, today's pipelines increasingly merge **ecological stewardship** with **biophysical ingenuity**. The research across this collection reveals a shared mission: to dismantle neglected tropical diseases, multidrug-resistant bacteria, and emerging vector-borne viruses without treating the environmental footprint as an afterthought.

Upcycling Waste into Weaponry: The Bio-Based Pipeline

The natural world has spent millennia engineering defensive scaffolds; researchers are now recovering these privileged cores directly from the agricultural waste stream.

In Tuscany and Hamburg, **Lorenzo Raffellini and collaborators** look past the sweet arils of the pomegranate to its discarded rind. Rather than relying on energy-intensive or toxic organic extractions, the team deploys eco-friendly extraction techniques to harvest **ellagic acid (EA)**. Recognizing that parent polyphenols suffer from notoriously

poor pharmacokinetics in mammals, the team pivots toward the microbiome: when gut bacteria metabolize EA, they yield **urolithins**—scaffolds that retain the parent compound's potent anti-inflammatory and antiparasitic properties while substantially improving oral bioavailability. By generating a synthetic library centered on this urolithin core, the researchers are systematically prioritizing bioavailable, low-toxicity drug hits against parasitic infections.

A companion movement in northern Italy and the UK centers on **Cashew Nutshell Liquid (CNSL)**, an abundant byproduct of nut processing rich in anacardic and cardanol-type phenolic lipids:

Biocatalytic Fine-Tuning: Bianca Martinengo and her team bypass the harsh oxidants typical of petrochemistry, deploying *Candida antarctica* lipase B (CAL-B) combined with urea hydrogen peroxide (UHP). This biocatalytic route selectively epoxidizes the long, unsaturated C15 hydrocarbon tail of CNSL under ambient, non-hazardous conditions, furnishing versatile reactive intermediates that are now showing promise against *Trypanosoma brucei brucei* and *Leishmania mexicana*.

One-Pot Antivirals: In parallel, **Filippo Piazza and co-workers** harness CNSL directly as an input for the **Ugi four-component reaction (U-4CR)**. Targeting the flavivirus **NS2B-NS3 protease**—the conserved catalytic machinery driving West Nile, Dengue, and Zika infections—the team assembled a ~30-compound peptidomimetic library in single steps. A 1.8 Å crystallographic structure validated their structural thesis: rigid scaffolds anchored within the catalytic triad yielded antiviral hits with micromolar efficacy (≈70 μM), showcasing an atom-economical route from agricultural waste to antiviral candidate.

Underpinning these chemical campaigns is the broader shift toward green synthesis exemplified by **Gunel Aliyeva and colleagues**. By running palladium-catalyzed **Suzuki–Miyaura couplings in open air** using a benign, biodegradable **deep eutectic solvent (choline chloride and glycerol)**, the researchers accessed functionalized bioactive pyridines in yields up to 90%. They demonstrate that forming key carbon–carbon bonds does not demand inert dryboxes or halogenated waste.

Redefining Antiparasitic Pharmacology

Leishmaniasis and trypanosomiasis remain devastating global killers, yet the traditional pharmacological playbook—dominated by toxic antimonials and amphotericin B—faces relentless resistance. The abstracts reflect a decisive transition from blunt cytotoxicity toward precision molecular mechanics:

Triggering Self-Destruction via Targeted Protein Degradation: Conventional enzyme inhibitors must continually occupy a protein's active site to prevent its function. **Aurora Gaza and collaborators** overturn this paradigm by designing **Hydrophobic Tag (HyT) degraders** targeting *Leishmania* **trypanothione reductase (TR)**. Because TR's active site is wide and notoriously featureless, traditional competitive inhibitors struggle with affinity. Gaza's bifunctional molecules recruit the parasite's own protein quality control machinery, tricking the cell into treating TR as an unfolding, misfolded polypeptide and destroying it. Armed with CRISPR-Cas9-engineered parasite strains expressing Myc-tagged TR, the team is tracking this targeted clearance in real time.

Targeting Pteridine Synthesis *In Vivo*: Taking an alternative enzyme-inactivation route, **Gülşah Bayraktar and collaborators** engineered **thiazolopyrimidine** scaffolds targeting *Leishmania major* pteridine reductase 1 (LmPTR1). Progressing from computational docking to *in vitro* macrophage amastigote assays, their cross-European consortium validated these non-cytotoxic hits in mouse models, demonstrating efficacy against both visceral and cutaneous leishmaniasis strains.

Expanding Diversity with Chalcone Cores: Recognizing the recurring bottleneck of parasite resistance, **Kübra İren and Sandra Gemma** turned to **chalcones**—flexible, naturally inspired α,β-unsaturated ketone scaffolds—synthesizing tailored derivatives designed to circumvent existing resistance mechanisms.

Deep Computing and Structural Physics

Where structural biology was once limited by static crystallography, computational biophysics now reveals the transient conformational states that microbes rely upon for survival.

In a striking intervention against the hospital-acquired pathogen *Pseudomonas aeruginosa*, **Gian Marco Elisi and co-workers** focused on the bacterium's sulfur assimilation machinery: **Adenosine 5'-phosphosulfate reductase (APSR)**. The enzyme relies on a hyper-flexible C-terminal loop that routinely evades crystallographic capture. Unfazed, the team reconstructed the missing catalytic loop using **AlphaFold2**, verified its transition-state energetics through hybrid **QM/MM simulations**, and subjected the dynamic model to a covalent virtual screen of 5.4 million compounds. Mass spectrometry and genetic rescue (*cysH* complementation) proved their hit molecules successfully cross the Gram-negative outer membrane and covalently tether to the catalytic cysteine, cutting off the bacterium's sulfur lifeline during lung infection.

Complementing this structure-guided assault, **Biljana Arsić and colleagues** built an integrated multi-tier computational framework. By combining **electron–ion interaction potential (EIIP)** virtual screening with molecular dynamics and binding free energy calculations (MM-GBSA), their pipeline bridges target identification (such as the *Plasmodium falciparum* apicoplast ribosome) with clinical drug repurposing against malaria, *Leishmania donovani*, and Dengue virus.

The One Health Mandate

The thread connecting these laboratories is an awareness that human health is inseparable from ecosystem integrity and animal reservoirs. This principle is made explicit by **Stijn Verhoeven and his group**, who tracked the neglected bovine parasite ***Trypanosoma theileri*** across Belgian dairy cattle and Japanese wildlife (*Cervus nippon*). By combining field-level cultivation, genomic sequencing, and drug susceptibility assays, they are charting how neglected trypanosomes circulate and adapt across livestock and wildlife niches.

From the valorization of discarded fruit peels and cashew processing effluents to covalent simulation and cellular degradation machinery, this collection captures a cohesive paradigm: **a drug discovery ecosystem that is green at its source, rational in its design, and comprehensive in its view of global health.**


FROM THE EUROPEAN RESEARCHERS NIGHT
OneHealthdrugs 25 Sept 2026
44:27