



Newsletter DECEMBER 2025

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3. OHD participation to other EVENTS to present
 - 3.1 Chair at the ENVIRANT meeting - 19 Novembre 2025
 - 3.2 Chair at the Tblisi meeting – 26 Novembre 2025
 - 3.3 Chair and Daniele Aiello at the ER meeting – 18 Dicembre 2025
4. Survey - Veterinarian survey
5. Publication
6. Greetings

1. December events – reporting!

Marathon days

about 120 participants

24 presentations

and 2 grants awards

assigned (see next slide).

Book of abstract at:

<https://onehealthdrugs.com/events/scientific-meeting/next-meeting/ohd-marathon-days-2-5-december-2025/>



OHD Marathon Dec 2025 – YRI session and award



YRI award directed to 2 YRIs presenting in the
Onehealthdrugs Marathon

Committee:

Prof Anabela Cordeiro-da-Silva

Dr Elisa Uliassi

Dr Gulsah Bayraktar

YRI award winners



Gian Marco Elisi

Department of Biomolecular Sciences, University of Urbino
Carlo Bo, Italy

*Integrated pharmacophore screening workflow for target
identification and selection of antileishmanial compounds
with an improved chemical profile*



Morgane Picard

INSERM U1124, Paris University, Paris, France
*Persistent myeloid cell reprogramming despite
miltefosine treatment in leishmania-infected
macaques*



REGISTER NOW!

**Joint meeting
Drug Design & Development Seminar
(DDDS) of the
German Society for Parasitology (DGP)
& The European Cost Action – CA21111
– “OneHealthDrugs”
“Human and Animal Parasitic Diseases
– Bridging the Innovation Gap”
17th - 20 March 2026 Biomedical
Research Center Seltersberg (BFS),
Justus Liebig University Giessen,
Germany
Deadline 15 December 2025**

Thematic Workshop 1

“ From Research to Recommendation for environmental impact of drugs: Advancing One Health drugs through Science, Policy, and Industry”

6 March 2026 10:00 - 16:00

COST premises, Yung room. Brussels, Belgium

Thematic Workshop 2

“Veterinarians’ attitudes and perceptions of the environmental impact of drugs prescribed for prevention and treatment of Parasitic Vector-borne Diseases” –.

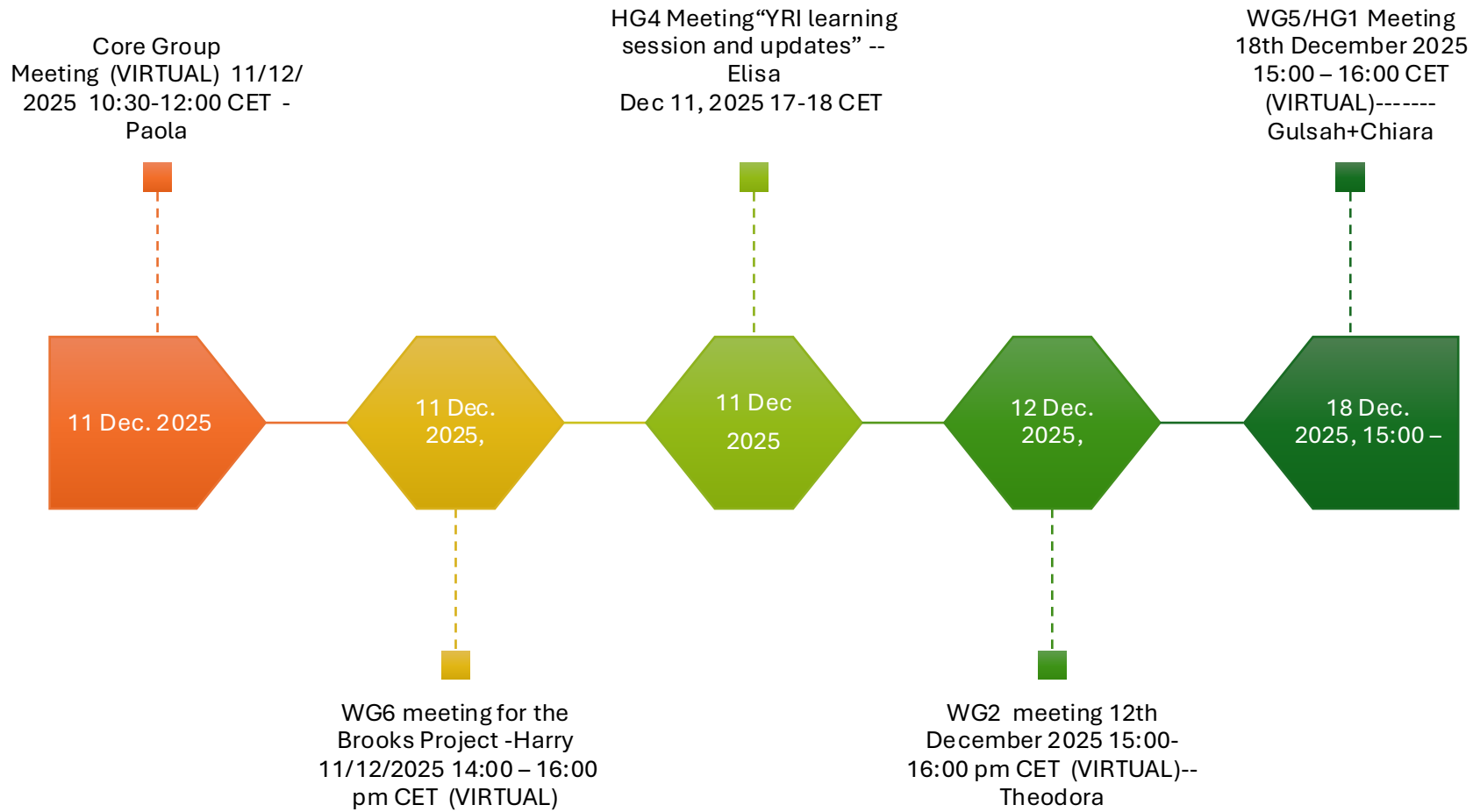
10/03/2026 (remote) 14:00 – 16:00 pm CET (VIRTUAL)

Thematic Workshop 3

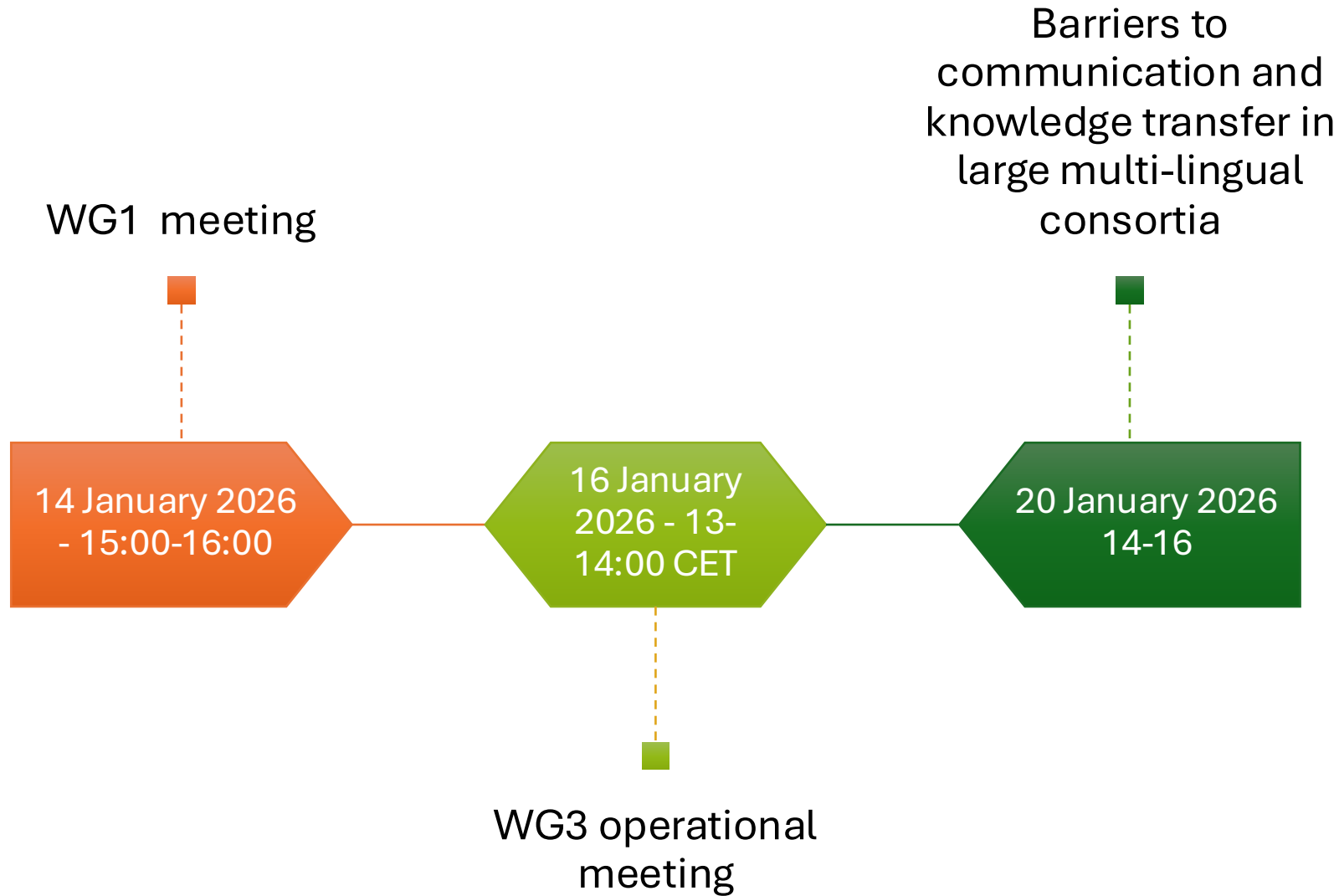
“Integration of green and greener actions into medicinal chemistry programs”

26/02/2026 14:30-16:30 CET online

• Activity calendar December 2025



- 2. Activity calendar January 2026



3. OHD participation to other EVENTS

3.1 Participation to the ENVIRANT meeting .

- Maria Paola Costi, action chair, participated to the ENVIRANT meeting that took place in Bruxelles on the 19th of September 2025.

The discussion highlighted the €2 billion cost and growing antihelmintic resistance in livestock, demanding a shift to Sustainable Worm Control (SWC).

Projects like ENVIRANT revealed the ecotoxicity of antihelmintics, while Life MiCliFeed demonstrated innovative, GHG-reducing natural feed solutions (e.g., tannins).

The research roadmap recommends integrating environmental and social science and investing in diagnostics and vaccinology.

Key challenges include engaging policy makers, ensuring regulatory oversight (unlike antibiotics), and building a unified, globally relevant message.

Both the SPARC and ENVIRANT initiatives aim to establish good practices and a critical mass in parasitology for food security and environmental protection.

- Read the outcome at: <https://onehealthdrugs.com/news/other-news/participation-to-the-envirant-meeting-19-november-2025-bruxelles-in-the-cost-office-premise/>

Letter by the Chair of Envirant COST Action CA23154 inviting to participate to this new CA to start a new collaboration.

Dear colleagues

My name is María Martínez Valladares and I am the chair of the COST Action ENVIRANT, Environmental impact of anthelmintics in livestock and alternatives to minimize their use (CA23154). The aim of ENVIRANT is to promote, consolidate and disseminate research and knowledge on the environmental presence and ecological impact of anthelmintics administered to livestock, as well as to propose more sustainable practices and methods to minimise their use in the control of helminth infections.

If you are interested in this topic, I invite you to join the Action and, if you have any questions, please do not hesitate to contact me (mmarva@csic.es). <https://envirant.eu/>

Kind regards

Maria Martinez Valladares

María Martínez Valladares DVM PhD

CSIC - Consejo Superior de Investigaciones Científicas

Instituto de Ganadería de Montaña

24346 Grulleros (León), SPAIN

COST Action Chair of ENVIRANT <https://envirant.eu/> Environmental impact of anthelmintics

Partner of SPARC www.wormsparc.com/ Sustainable worm control in grazing ruminants

Vice-Chair and Member of www.lihra.eu Livestock Helminth Research Alliance



The poster features a top header with logos for envirant, cost, the European Union, LIFE MiCLiFEED, and another European Union logo. The main title is 'WHEN PARASITE CONTROL MEETS SUSTAINABLE PRACTICES' in bold white text on an orange background. Below the title, the date and location are listed: '19th November 2025, Brussels, Belgium'. The central text describes the challenges of parasitic helminth infections in the European ruminant livestock sector, noting annual costs of over €1.8 billion and the impact on animal health and the environment. It mentions the need for innovation to address anthelmintic resistance and the potential impact of climate change. The poster states that the COST Action ENVIRANT and LIFE MiCLiFEED will host a joint forum to share progress and discuss sustainable parasite control solutions. A list of goals for the forum is provided: co-develop a forward-looking agenda for sustainable parasite control in Europe that considers: which innovations are ready or in the pipeline; how they can support the sustainable control of parasite infections in the future; and which research and health policies are needed to reach maximal effect. The bottom section is titled 'FOR WHOM?' and lists the target audience: a mix of research, health, agricultural and environmental decision makers, EU stakeholder organisations, and cross-country collaboration under a One Health approach. The poster includes images of cows in a field and a DNA double helix.

WHEN PARASITE CONTROL MEETS SUSTAINABLE PRACTICES

19th November 2025, Brussels, Belgium

Parasitic helminth infections cost the European ruminant livestock sector over €1.8 billion annually in treatment and lost productivity whilst impacting negatively on animal health, welfare, and livestock greenhouse gas emissions. In the same time control is challenged through the escalating spread of anthelmintic resistance, changing disease patterns and timings due to climate change and the need to mitigate the potential impact of anthelmintics on the environment. To address these challenges, innovations are urgently needed that are fit for uptake in the wide diversity of European livestock production sectors.

To this end, the COST Action ENVIRANT and LIFE MiCLiFEED will host a joint forum to share the project's progress from a range of complementary European research initiatives to start the discussion how we can accelerate sustainable parasite control solutions by strengthening cross-disciplinary, cross-sector, and cross-country collaboration under a One Health approach.

Our goal is to co-develop a forward-looking agenda for sustainable parasite control in Europe that considers:

- Which innovations are ready or in the pipeline?
- How can they support the sustainable control of parasite infections in the future?
- Which research and health policies are needed to reach maximal effect?

FOR WHOM? The meeting targets a mix of research, health, agricultural and environmental decision makers, EU stakeholder organisations,

3.2 Action Chair invited to Tblisi meeting



CA21111 - One Health drugs against parasitic vector borne diseases in Europe and beyond (OneHealthdrugs) Action to the COST Scientific Committee during its 22nd Meeting (25-26/11/2025, Tbilisi, Georgia).



COST Scientific Committee (SC) advises the COST Association about the quality of the Open Call and in particular, the procedures related to the submission, evaluation, and selection of proposals.



It also oversees the monitoring and final assessment of COST Actions. You may find more information about this body here: Who is Who - COST Employee Directory | COST



OHD presentation was scheduled on 26/11/2025 (Wednesday) at 10.30 Georgian time.

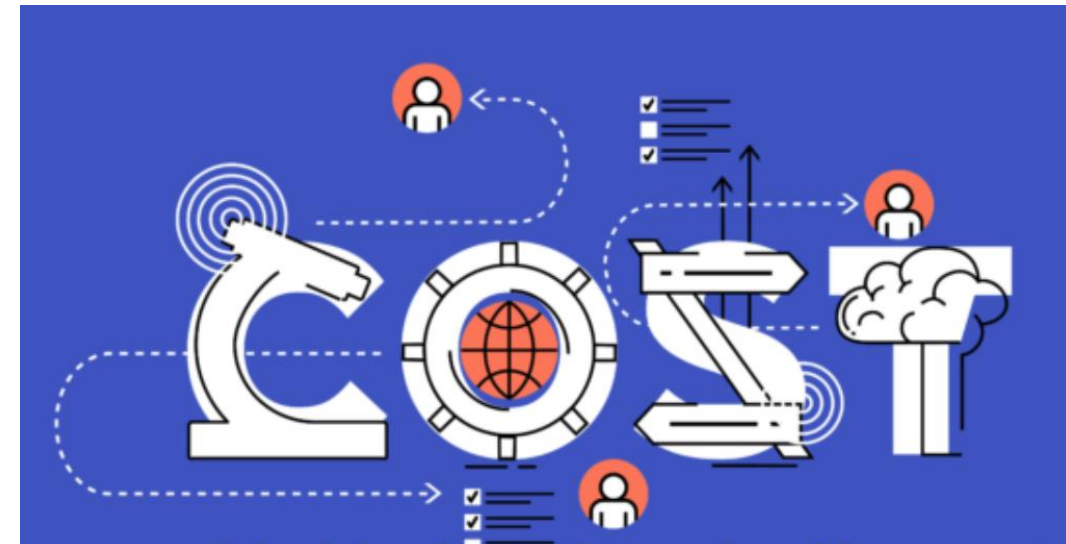


<https://www.cost.eu/about/who-is-who/?country=italy#tabs+Name:Scientific%20Committee>

Tbilisi meeting with the COST Officers!

We successfully communicated the progress of our OneHealthdrug work. This was an important opportunity to present our findings and sincerely thank all the network participants for their thoughtful, important, and intensive contributions.

I'm happy to share our strong belief: We can develop better drugs by improving the prioritization process with ecotoxicology properties. This is a true One Health choice for the benefit of all. Congratulations to the entire team!





slide presented in Tblisi interview. Main achievements of the COST Action up to now!



Ecotoxicology
Assay (2)



AI BASED Ecotox algorithm
to predict compounds with
clean profile



OneHealth*drugs* database
[https://www.cclab.unicz.it/
ohd/index.php](https://www.cclab.unicz.it/ohd/index.php)

and novel candidates
ongoing



Career
Development and OHD
ambassadors



Publications
>100



The Emilia Romagna Section of the Italian Chemical Society (SCI-ER) is organizing the Emilia Romagna Chemistry Day again this year, now in its 24th edition, which will be held on Thursday, December 18, 2025, at the University of Ferrara in the New Teaching Center in Cona, located at Via Aldo Moro 22, 44124 Ferrara.

The theme of the day will be “Innovation and new frontiers for the chemistry of tomorrow,” chosen by the SCI-ER board to provide an opportunity to discuss the role that chemistry can play in technological innovation, identifying emerging areas and application solutions to address global challenges with sustainable and cutting-edge systems. During the day, there will be four invited speakers from local companies and universities, who will share their first-hand experiences of how chemical sciences can help make our passage on planet Earth increasingly sustainable.

Maria Paola Costi presented a lecture entitled “***Efficacy and risks: the other side of One Health drugs***”

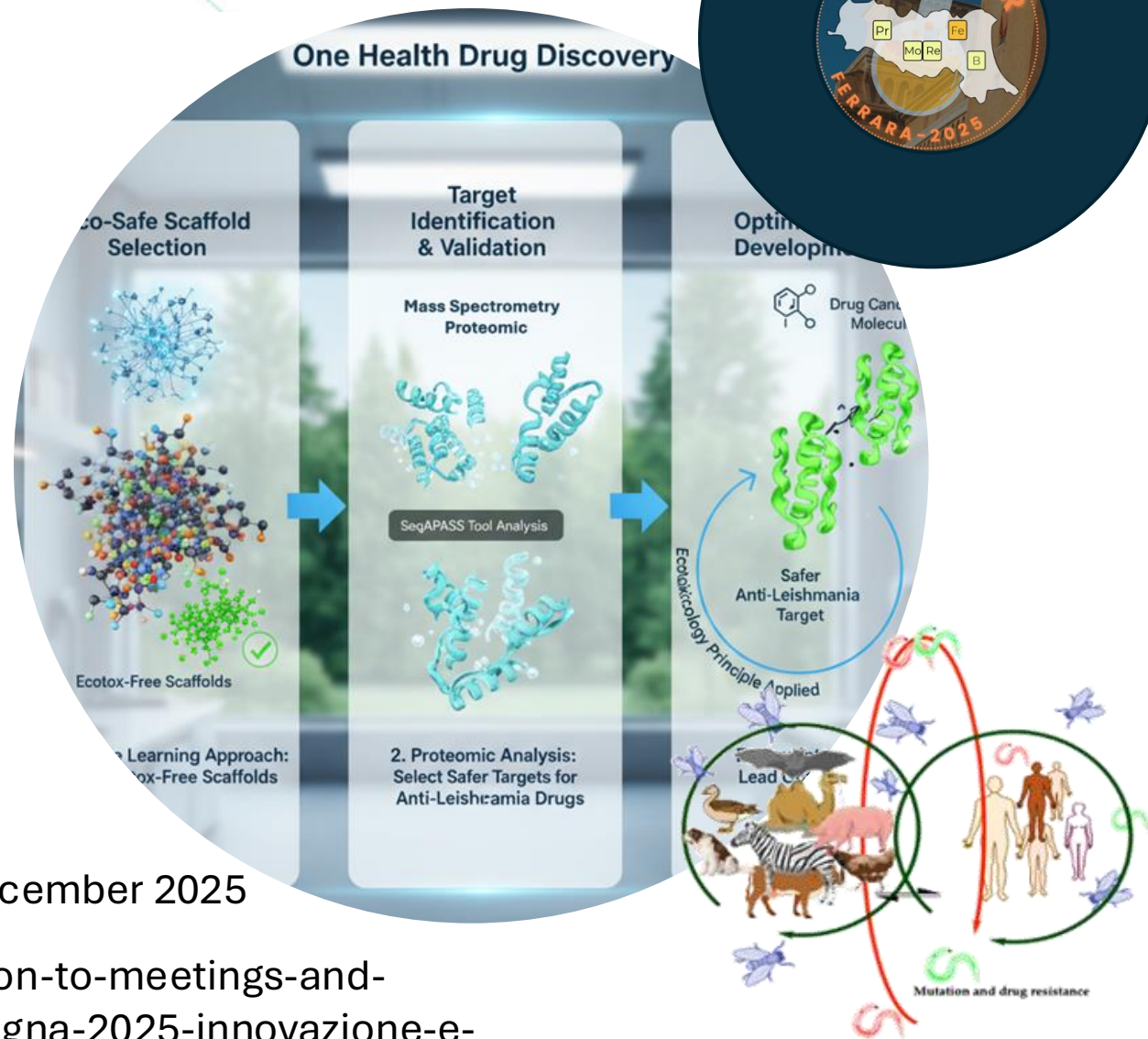
<https://gdc2025.unife.it>



Maria Paola Costi -Efficacy and risks: the other side of One Health drugs
Daniele Aiello - Integrating Ecotoxicological Constraints into Early Antiparasitic Drug Discovery: A Machine-Learning and GreenDrugScore Framework

University of Ferrara, Nuovo Polo Didattico Cona, 18 December 2025

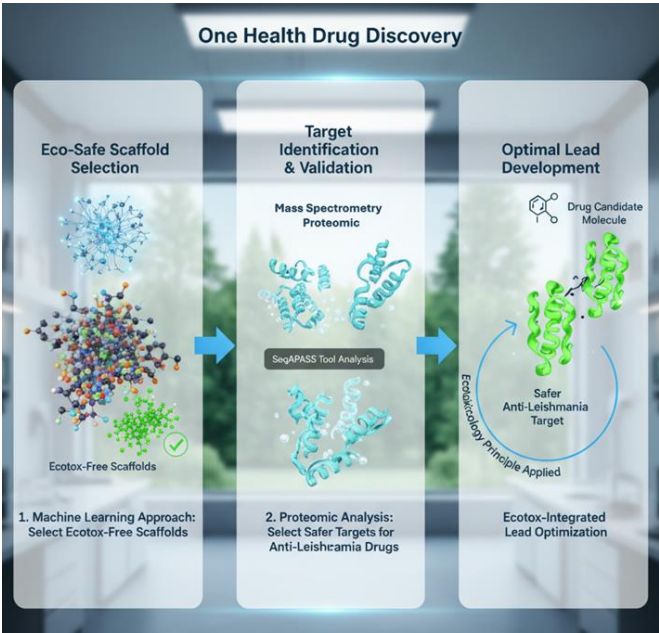
<https://onehealthdrugs.com/dissemination/participation-to-meetings-and-congress/xxiv-giornata-della-chimica-dell-emilia-romagna-2025-innovazione-e-nuove-frontiere-per-la-chimica-di-domani/>



Summary of the outcome of the presentation at the xxiv-giornata-della-chimica-dell-emilia-romagna-2025 meeting. This summary outlines a proactive shift in medicinal chemistry, moving away from traditional drug discovery toward a **"One Health"** approach.

By integrating ecotoxicology and machine learning early in the design phase, the research aims to create effective drugs that don't persist as environmental pollutants. Here is a breakdown of the core themes and innovations presented:

- 1. The Core Problem: The Pharmaceutical Lifecycle.** Traditional drug development often focuses solely on human or animal efficacy, leading to several unintended consequences:
- 2. Limited Efficacy & Toxicity:** Current treatments for parasitic diseases (like those carried by insects) are often outdated or harmful to the host.
- 3. Antimicrobial Resistance (AMR):** Overuse in humans and livestock creates "superbugs" that resist treatment. **Environmental Contamination:** Active Pharmaceutical Ingredients (APIs) and their metabolites enter water and soil through waste, harming ecosystems.
- 4. The Solution: "Safe-by-Design" Chemistry** The research proposes a shift toward **preventative chemistry**, ensuring that the "scaffolds" (the basic chemical structures) are environmentally friendly before they are ever turned into drugs.
- 5. Key Innovative Tools**
Machine Learning (ML) for Scaffold Selection: Using AI to predict which chemical structures are likely to be biodegradable or non-toxic to the environment before synthesis begins.
- 6. Mass Spectrometry Proteomics:** Identifying exactly which proteins in a parasite (specifically *Leishmania infantum*) are being targeted by a new drug.
- 7. SeqAPASS Tool:** A bioinformatic tool used to ensure that a drug target is unique to the pathogen and doesn't exist in "off-target" species (like fish, bees, or humans), thereby reducing ecotoxicological risk.
- 8. The One Health Integration** The strategy emphasizes that human, animal, and environmental health are inextricably linked



Traditional Approach	The Proposed "Greener" Approach
Focus on potency/efficacy first.	Focus on structural diversity and ecotoxicity first.
Environmental impact is an afterthought.	Environmental impact is a design constraint .
High risk of "off-target" toxicity.	Uses SeqAPASS to ensure species-specific targeting.
Remediation (cleaning up the mess).	Prevention (designing out the pollution).

4. Survey



VETERINARIAN SURVEY

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Survey on Veterinarians' attitudes and perceptions of the environmental impact of drugs prescribed for prevention and treatment of Parasitic Vector-borne Diseases

Fields marked with * are mandatory.

Disclaimer
The European Commission is not responsible for the content of questionnaires created using the EUSurvey service - it remains the sole responsibility of the form creator and manager. The use of EUSurvey service does not imply a recommendation or endorsement, by the European Commission, of the views expressed within them.

Survey on Veterinarians' attitudes and perceptions of the environmental impact of drugs prescribed for prevention and treatment of Parasitic Vector-borne Diseases

This survey is organized by COST Action 21111 'One Health drugs against parasitic vector borne diseases in Europe and beyond (OneHealthdrugs)' (OHD) (<https://onehealthdrugs.com/>). The goal is to explore veterinary professionals' practice regarding One Health approach to parasitic vector-borne diseases affecting animals, as well as the potential environmental impact of veterinary medications used for their prevention and treatment. The information gathered here is devoid of identification. Kindly refrain from including your name, gender, age or other personally identifying information.

* 1 Please indicate "yes" or "no" if you allow OneHealthDrugs to assess, analyse and publish the data collected from the analysis of your answers in the context of this survey

☐ Yes
☐ No

Views
Standard [Accessibility Mode](#)

Languages
English

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https://ec.europa.eu/eusurvey/runner/OneHealthDrugs_COST_Action_21111

Veterinarian survey

- https://ec.europa.eu/eusurvey/runner/OneHealthDrugs_COST_Action_21111

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5. Publications

PUBLISHED

- ❑ **One Health and Vector Borne Parasitic Diseases**

Special issue ACS Infectious Diseases published by the American Chemical Society (ACS)

- ❑ **>92 Multiauthor papers**

IN PREPARATION

- ❑ **One Health Drugs Against Vector-Borne Parasitic Diseases—a Sustainable Chemical/Biological Approach**

Special issue of Molecules (ISSN 1420-3049). This special issue belongs to the section "Medicinal Chemistry".

Deadline for manuscript submissions: 31 January 2026 | see below

- ❑ **One Health drugs against parasitic diseases**

Book edited by Wiley.

This book proposal outlines a unique and timely resource on anti-parasitic drug discovery, anchored by the One Health principle—the interconnectedness of human, animal, and environmental health.

Editorial & Contributor Network: The book will feature a selective list of global experts, drawing heavily from the EU COST Action CA21111 ("OneHealthdrugs") to ensure specialized knowledge transfer.

- ❑ **At least 4 Multiauthor papers**



Special Issue on Molecules

OHD COST Action offers free open Access contact:
bayraktargulsah@gmail.com

COST Action CA21111 - OneHealthdrugs is pleased to announce the Special Issue (SI) titled "**One Health Drugs against Vector-Borne Parasitic Diseases – A Sustainable Chemical/Biological Approach**," to be published in the open-access journal **Molecules (MDPI)**.

Special Issue

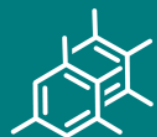
One Health Drugs Against
Vector-Borne Parasitic
Diseases—a Sustainable
Chemical/Biological Approach

Guest Editors

Prof. Dr. Pascal Marchand
Dr. Sébastien Pomel
Dr. Katerina Tsitsanou
et al.

Deadline

31 January 2026



molecules

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Special Issue on Molecules

Special Issue

One Health Drugs Against
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molecules

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8.6

Special Issue Editors



Prof. Dr. Pascal Marchand E-Mail Website

Guest Editor

Cibles et Médicaments des Infections et de L'immunité, IICiMed, UR 1155, Nantes Université, F-44000 Nantes, France

Interests: heterocyclic chemistry; medicinal chemistry; antifungal and antiparasitic agents; kinase inhibitors; resistance; Leishmania; Chagas disease

Special Issues, Collections and Topics in MDPI journals



Dr. Sébastien Pomel E-Mail

Guest Editor

Faculté de Pharmacie, Chimiothérapie Antiparasitaire (PARACHEM), UMR 8076 CNRS BioCIS, Université Paris-Saclay, Orsay, France

Interests: parasitology; Leishmania; antiparasitic drugs; in vitro/in vivo models; amoeba; emerging parasitic diseases



Dr. Katerina Tsitsanou E-Mail Website

Guest Editor

Institute of Chemical Biology, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, 11635 Athens, Greece

Interests: protein biochemistry; protein-ligand interactions; structural biology; Leishmania; antiparasitic drugs; insect chemoreceptors



Prof. Dr. Anton Gerilovych E-Mail Website

Guest Editor

One Health Institute, Kharkiv, Ukraine

Interests: biosafety; One Health approach; veterinary microbiology; virology; molecular diagnostics; biotechnology



Dr. Slavica Vaselek E-Mail

Guest Editor

Department of Biology, Hacettepe University, Ankara, Turkey

Interests: host-pathogen interactions; microbiome-host-pathogen interactions; parasitology; microbiology



Dr. Gülsah Bayraktar E-Mail Website

Guest Editor

Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Ege University, İzmir, Turkey

Interests: antileishmanial compounds; Leishmania; antiparasitic drugs; multi-target directed ligands; One Health drugs

Dear Colleagues,

Vector-borne parasitic diseases continue to pose a significant threat to human and animal health worldwide, especially in tropical and subtropical regions. This problem requires consolidation on intersectorial and multisectorial levels under One Health approach including public health, veterinary medicine and ecological/biological scientific and practical community. These diseases, including malaria, leishmaniasis, filariasis, and trypanosomiasis, and many others are intricately linked to ecological changes, animal reservoirs, and the complex dynamics of vector populations. In the context of the One Health framework—which recognizes the interconnectedness of human, animal, and environmental health—there is a pressing need for integrated, sustainable strategies to combat parasitic diseases, including development of new drugs against biological agents and their vectors, its potency, efficacy and safety considerations.

This special issue aims to bring together original research, reviews, and perspectives on the development of novel chemical and biological therapeutics targeting vector-borne parasitic pathogens. Contributions will explore innovative drug discovery pipelines, repurposing of existing compounds, bioactive natural products, and synthetic molecules with antiparasitic activity. We also highlight advances in host-targeted therapies, parasite resistance mechanisms, and integrated vector control strategies.

By uniting chemical biology, parasitology, pharmacology, and One Health sciences, this issue seeks to inspire collaborative, cross-sectoral solutions to mitigate the burden of parasitic diseases in an increasingly interconnected world

Greetings

Just a suggestion!

