

Newsletter

NEWSLETTER April-May 2025

Dear Members of the OneHealthDrugs Action and Drugs for One Health Readers,

As we move further into our third year of activities of our Action, I am proud to reflect on the milestones we have collectively achieved and the momentum we continue to build.

April and May 2025 have brought remarkable advancements across all Working Groups, including an insightful workshop on veterinary drug development, strengthened regulatory discussions, and an engaging hands-on session on FAIRDOMHub to bolster our shared commitment to open science.

Our strategic efforts on Stakeholder engagement have officially begun, and I encourage all members to actively contribute to the ongoing reporting of activities, collaborations, and outcomes. Please do not forget to complete the survey on science communication—your input is invaluable for improving our collective impact.

With a series of upcoming conferences, workshops, and training schools, I look forward to our continued collaboration and knowledge exchange.

Let's keep working together to advance sustainable solutions in One Health drug discovery.

Paola

From COST Association

<http://gopg.mjt.lu/nl3/ra6mmxJdsCzbmtLD1FP9Tw?m=AUCaAG9FLYsAAc5jtrAAALhFdXwAAAAF-KUAAIleAAoK7QBoPWYqQaJRRxVhRE2Tfi88uZfoWQAJyM&b=e770ae75&e=e70dab5b&x=hmpCW2dND33Ty23mMzruhG6YpfUkN2dcFkeppFppvFw>

This month

1. Open letter by Eli Torè from the conference “Swimming in medicated waters: Understanding and mitigating the impacts of pharmaceutical pollutants on aquatic wildlife”
2. Dissemination activity-publication
3. Activities performed in April/May. Outcomes will be reported soon in the www.onehealthdrugs.com website
4. Event in presence in April-May
5. Novel activities June, 2025
6. Ongoing surveys
7. Onehealthdrugs academy for onehealthdrug ambassadors activity
8. Dissemination grants and STSM application closed
9. List of the events in presence June-July 2025

1. Open letter by Eli Torè who received a conference grant to attend the conference

Title of the presentation: Swimming in medicated waters: Understanding and mitigating the impacts of pharmaceutical pollutants on aquatic wildlife

Other details of the conference/presentation: Understanding and mitigating the ecological impacts of pharmaceutical pollution in the session on “Solutions to climate change and biodiversity” (SEB Satellite Meeting) on Monday 24/03/2025.

Abstract

Swimming in medicated waters: Understanding and mitigating the impacts of pharmaceutical pollutants on aquatic wildlife

Eli S.J. Thoré

The widespread use of pharmaceuticals leads to their introduction into natural environments worldwide. While some pharmaceuticals cause acute toxic effects in wildlife, such as mass mortality or reproductive failure, the majority are present in concentrations too low to be overtly toxic. However, these low concentrations can induce subtle behavioral changes in wildlife, potentially leading to significant ecological consequences. The last few decades have seen a surge in behavioral ecotoxicology research, driven by methodological and technological innovations that allow for the collection of high-resolution behavioral data in both laboratory and field settings. Despite these advancements and our increased understanding of the ecological risks posed by pharmaceuticals, this knowledge is seldom integrated into chemical regulation frameworks. This presentation highlights the necessity of incorporating behavioral ecotoxicology findings into regulatory practices to better protect wildlife and their ecosystems.



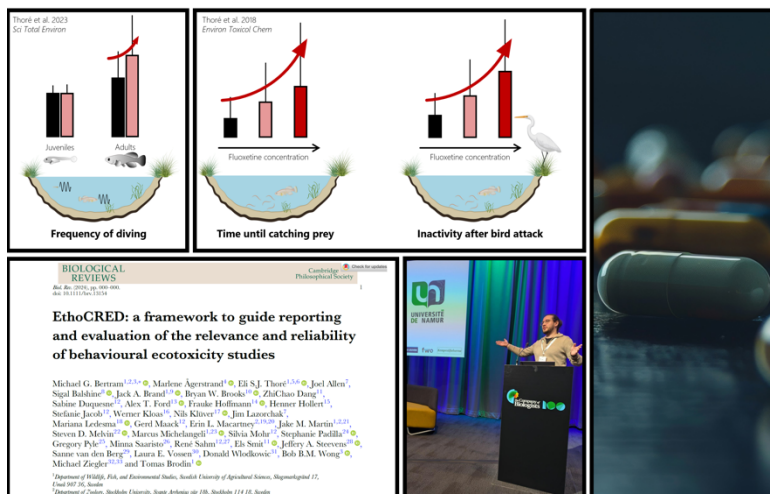
Namur, Belgium
Asst. Prof. Eli Thoré

Swimming in medicated waters: Understanding and mitigating the impacts of pharmaceutical pollutants on aquatic wildlife

Asst. Prof. Eli S.J. Thoré – Biologists@100 Conference, Liverpool, March 2025

Freshwater ecosystems are experiencing an unprecedented biodiversity crisis, with already one-quarter of freshwater fauna threatened by extinction. One key driver is chemical pollution—and pharmaceuticals play an increasingly recognised role. At the Biologists@100 conference, I highlighted how pharmaceuticals, even at very low concentrations, can trigger subtle but ecologically meaningful behavioural changes in aquatic wildlife.

One Health drugs against parasitic vector borne diseases in Europe and beyond OneHealthdrugs Cost Action CA21111



Using case studies, including our research on fluoxetine (the active ingredient of Prozac) exposure in fish, I showed that important behaviours such as foraging and anti-predator responses are disrupted in the presence of pharmaceutical pollution. These effects often occur at concentrations far below those causing traditional toxic outcomes like mortality or impaired reproduction. Importantly, the effects can differ across life stages and can persist or change over long-term exposures, as our 12-week chronic exposure study demonstrates.

Despite the growing evidence for behavioural disruption, current regulatory frameworks seldom integrate behavioural endpoints into environmental risk assessments. Instead, regulatory tests focus on short-term, acute toxicity without accounting for subtle, chronic, and life-

stage-dependent impacts.

This gap underscores the urgent need to refine our risk assessment paradigms—an objective closely aligned with the goals of the OneHealthdrugs COST Action. By advocating for the early integration of environmental considerations into drug development pipelines and emphasising the importance of incorporating complex biological responses such as behaviour, our work helps promote the Action's vision of eco-friendlier pharmaceuticals.

To support the integration of behavioural ecotoxicology into regulation, I also introduced the EthoCRED framework: a new tool we developed to guide the evaluation and reporting of behavioural studies, aiming to enhance their scientific quality and regulatory utility.

Through advanced technological methods, including high-resolution behavioural tracking and field-based telemetry, we can now quantify ecological effects at an unprecedented scale, detail, and realism. Embracing these innovations will be key to achieving sustainable pharmaceutical use and regulation that protects both environmental and human health—a core tenet of the One Health approach promoted by OneHealthdrugs.

2. Dissemination activity-publication

2.1 COST Action CA 211111 OneHealthDrugs is planning to start a series of publications on any of its various aspects in a special issue (SI) of the open access journal *Molecules* (*Molecules* | An Open Access Journal from MDPI). Prof Thomas Schmidt is the Editor in Chief of the Journal and the reference person of the issue.

The Issue entitled “One Health Drugs against Vector-Borne Parasitic Diseases – A Sustainable Chemical/Biological Approach”. It will provide a platform for the action members to publish their results on all scientific aspects relevant for our COST action, e.g. drug research and development against VBPDs for humans and animals taking into account aspects of sustainability, degradability, ecotoxicology and eco-friendly approaches, etc. The detailed aims and scope for the SI will be developed by the editorial group that will be announced soon.

2.2 Manuscript ID: Journal of antimicrobial chemotherapy submitted.

Title: Strategic roadmap towards high-quality leads and drug development candidates: in vitro and in vivo laboratory approaches for kinetoplastid diseases

Author(s): Hendrickx, Sarah; Ilbeigi, Kayhan; Thoré, Eli S.J.; Bertram, Michael G.; Calvo-Alvarez, Estefanía; Cintesun, Sener; Olías-Molero, Ana Isabel; Corral, María Jesús; Mateo-Barrientos, Marta; Estaquier, Jérôme; Pomel, Sébastien; Alunda, José María; Gul, Sheraz; Van Bocxlaer, Katrien; Frézard, Frédéric; Tavares, Joana; Cordeiro da Silva, Anabela; Costi, Paola; Maes, Louis; Caljon, Guy

2.3 OHD2 project_paper 1 under finalization.

Title: Ecotoxicity parameters in reshaping the cheminformatic dataset filtering in the drug discovery pipeline. Daniele Aiello et al. In preparation.

2.4 OHD2 project_paper 2 reporting the most recent drugs against some VBPD is under preparation.

2.5 Review preparation ongoing on “Veterinary drugs” promoted by WG6.

2.6 Papers outside the OHD projects: every paper connected with the OneHealthdrugs Action including acknowledgment will be list among the products of the CA.

Other activities involving YRI:

We are collecting videos/interviews of young scientists within OneHealthdrugs with their stories of reflection in One Health for VBPD: STSM awardees and recipients of conference or dissemination grants are especially encouraged to contribute by sharing their stories. Please send your contributions to theo@greek-scientists-society.org and bayraktargulsah@gmail.com

Also, just a gentle reminder that Young Researchers and Innovators (YRIs) who wish to contribute through oral or poster presentations—or other forms of dissemination—at scientific events organized by OneHealthDrugs will be selected based on their active engagement in HG4 and CA21111 activities. This includes participation in Working Group (WG) and Horizontal Group (HG) virtual meetings.

3. Activities performed in April/May. Outcomes will be reported soon in the indicated web address.

- Workshop online "Principles of veterinary drug development for PVBD, including regulatory aspects, under OneHealth framework" Friday 11 April 2025 - 15:00 to 17:00 C.E.T.

This workshop's theme is around important new developments and perspectives of veterinary drug discovery for parasitic vector-borne diseases. Experts are brought together from Africa, South America, North America and Europe to present their approach and progress towards new veterinary drugs. The programme features both protozoan and helminthic infections. In addition we had the multinational organisation GALVmed (Global Alliance for Livestock Veterinary Medicines) speak about how to incorporate environmental safety into veterinary drug development programmes – an issue that is central to our OneHealthDrugs mission. This workshop will close with a roundtable Q&A and discussion to highlight common themes, and avenues towards translation into implementable therapies.

See and listed the outcome of the workshop at <https://onehealthdrugs.com/events/scientific-meeting/next-meeting/>

- WG1 workshop online - FAIRDOMHub (<https://fairdomhub.org/>) which is used in the COST Action project to collect relevant data and documents including compound and biotarget data.
The participants learnt how to register and to use the FAIRDOMHub platform. The goal of the introductory course is to be able to upload and share data in FAIRDOMHub. All members of the COST Action are welcome to attend. Date: May 14th, 2025 Time: 15:00-17:00 CEST

Description. The hands-on course has introduced the data management platform FAIRDOMHub (<https://fairdomhub.org/>) which is used in the COST Action project to collect relevant data and documents including compound and biotarget data.

FAIRDOM-SEEK Software <https://fairdomseek.org>



Storing
Interlinking
Sharing
Publishing

- Open source web platform
- Storing, interlinking, sharing of scientific research data, models, protocols, publications etc. (no file format restrictions)
- Yellow pages with information about the people and organizations
- ISA (Investigation, Study, Assay) structure for describing how individual experiments are aggregated into studies and investigations
- Flexible and detailed sharing permissions
- DOI can be generated for individual items, or entire data sets



This course gave an introduction and hands-on course about the data management platform FAIRDOMHub (<https://fairdomhub.org/>) which is used in the COST Action project to collect relevant data and documents including compound and biotarget data.

The participants learned how to register and to use the FAIRDOMHub platform. The goal of the introductory course was to learn how to upload and share data in FAIRDOMHub.

Documents reported in the OHD website:

<https://onehealthdrugs.com/events/scientific-meeting/next-meeting/>

4.Event in presence in April-May 2025

**One Health drugs against parasitic vector borne diseases in Europe and beyond
OneHealthdrugs
Cost Action CA21111**

Workshop "Surveillance,
prevention and therapies against
parasitic diseases in humans and
animals" Tirana (Albania) 2025-
05-15 10:00:00 - 2025-05-16
12:00:00. Hybrid.
website reference:



<https://onehealthdrugs.com/events/scientific-meeting/next-meeting/>

Outcome of the meeting can be found at the addressed site.

5. Novel activities June, 2025

OHD 2025 Conference "Strategies for breaking the chain
between the parasite
reservoir in animals and infections in humans" [WG3 + all
WGs/HGs]
Antwerp (Belgium) 2025-06-04 09:00:00 - 2025-06-06
16:00:00
IN PRESENCE

WG2 organizational Meeting
2025-06-06 15:00:00 - 16:00:00 CET
Online

33rd Annual GP2A Conference & XIVth Paul Ehrlich
MedChem Euro-PhD Network Meeting
2025-06-11-13 Nantes (FR) -IN PRESENCE

Core Group Meeting
2025-06-16 14:30:00- 16:00:00 CET
Online

HG4 meeting
2025-06-26 17:00:00 - 18:00:00 CET
Online

6. Running/Ongoing Surveys

6.1 We invite you participate in a survey conducted under COST Action 21111 on "One Health drugs for Vector-Borne Diseases".

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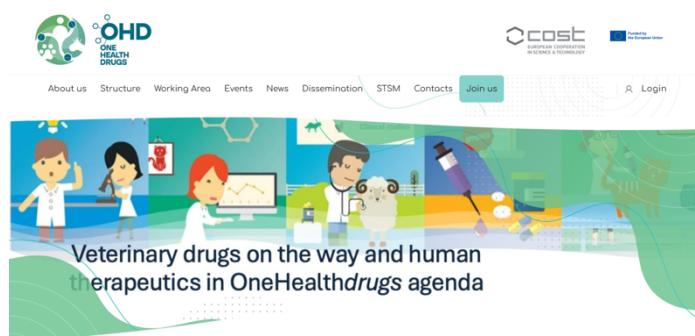


This survey aims to address the impact of language and scientific jargon on clear and effective communication between the different disciplines involved in *OneHealthdrugs* COST Action. From its analysis, we aim to propose strategies to improve communication and clarity for effective knowledge transference in One Health drug development programmes.

Please access the survey using the link below:

<https://forms.gle/UkzahHjwwyGhM1Ag9>

6.2 Survey on veterinarian awareness on drugs in use and their environmental impact



As a consortium of European scientists that promotes the development of drugs against parasitic vector-borne diseases (PVBDs) in line with good environmental and One Health practices. This consortium, of 300+ scientists including veterinarians, is inviting veterinarian practitioners, veterinarian scientists and those who are directly using/prescribing veterinarian drugs for domestic and livestock's animals, to adhere to the survey described below.

Problem and need of contribution

The survey is intended only for practicing, prescribing veterinarians and aims to provide insights into which drugs are most used in the prophylaxis and treatments of PVBDs in Europe and beyond Europe, and the extent to which practitioners are aware of, and take into account, the potential environmental impacts of these drugs. We aim to create an overview of the current state of PVBD use and impact, to identify and promote priorities for research and new drug development. Then it is also aimed to assess the potential or real environmental impact of those drugs. We intend to publish a summary and analysis of the submitted, fully anonymous responses in an appropriate academic journal to promote awareness of PVBDs in Europe and the gaps in knowledge and research about drugs use and potential risk associated, in One Health context. The results will be disseminated properly to reach all participants.

The survey should take approximately 20 minutes to complete, and we thank you sincerely for your participation.

6.3 Survey on boosting the participation of young researchers (YRIs) in HG4 and CA21111 activities.

IMPORTANT FOR YRI!!

We have a few exciting initiatives in the pipeline aimed at boosting the participation of young researchers (YRIs) in HG4 and CA21111 activities. Your input and engagement are important to us, so we'd love to hear your thoughts.



Please reply by simply clicking on your favorite, and we'll proceed with the most selected options.

Your preference? ([Visualizza/vota nel browser](#))

7. OneHealthdrugs Academy for OneHealthdrug ambassadors activity

OneHealthdrugs Ambassadors.

The primary goal of the ambassador program is to promote and raise awareness of our key principles: OneHealthdrugs is committed to coordinating in each expertise field the discovery of drugs that combat vector-borne diseases (VBD) in both human and veterinary medicine. These efforts are guided by the principles of optimizing treatment for both organisms, enhancing quality, and minimizing environmental impact.

One Health drugs against parasitic vector borne diseases in Europe and beyond
OneHealthdrugs
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Please find details on onehealthdrugs website: <https://www.onehealthdrugs.com/news/other-news/call-to-action-for-onehealthdrugs-ambassador-role/>

Prof. Michael Bertram

Prof. Farah Faudyn

Dr. Elisa Uliassi

Dr. Clara Lima

Dr. Daniele Aiello

Our Ambassador are promoting stakeholders engagement, support the OHD database development, lead the Veterinary drugs projects and stimulate activities within the YRI.

8. Dissemination Grants and STSM YEAR 3- application closed

6 STSM applications were submitted and approved.

The STSM application for year 3 are closed.

All the ongoing STSM and grants must be completed by end of August 2025, to have the time to report and be reimbursed by end of September 2025

In the evaluation process YR had the priority.

Additional requirements will be included for approval that is the integration of drug research fields with environmental impacts outcome and declaration of the Global development goals explicitly addressed. These requirements will apply starting from the 6th STSM calls.

Linkedin:

Youtube channel: <https://www.youtube.com/@OneHealthdrugs>

Website: <https://www.onehealthdrugs.com>

Below, all the approved grants are reported.

Outcome of the STSMs are enclosed in the OHD website: <https://onehealthdrugs.com/stsm/>

Applicant	Type	Status	Title
Search a grant ...			
Cecilia Pozzi	STSM	Grant letter sent	High throughput cloning, production, and crystallization of Leishmania infantum calpain, a new promising target against Leishmaniasis
Ehab Elmahallawy	STSM	Grant letter sent	Unraveling the Mechanisms of Action of Antikinetoplastid Nucleoside Prodrugs: Bridging the Gap in Drug Efficacy and Mechanisms
Eli Thoré	YRIG	Report approved	Swimming in medicated waters: Understanding and mitigating the impacts of pharmaceutical pollutants on aquatic wildlife
Federica Piccolo	VNS	Grant letter sent	Supporting the OneHealthdrugs network in virtual and hybrid settings
Gunel Aliyeva	YRIG	Submitted	Development of Optimized Suzuki-Miyaura Strategies for Aryl and Pyridyl Benzo[b]thiophene Derivatives: Toward Improved Yields and Pharmaceutical Relevance
Hamed Eid A Alkhalaf	STSM	Report submitted	Metabolism of anti-kinetoplastid nucleoside leads in Leishmania and Trypanosoma species.
Harry DE KONING	DCG	Grant letter sent	Drugs and drug resistance in animal trypanosomiasis
Lorenzo Raffellini	STSM	Grant letter sent	In-vitro and in-silico analysis of neglected infectious disease compounds from an ADMET and ecotoxicology perspective
Lori Doko	STSM	Paid	Robotic Plate Production and Antiparasitic Screening: Hands-On Cell Culturing and Data Analysis for Drug Discovery.
Paula Schwarz	STSM	Paid	Blood brain barrier – derived peptide shuttles for drug delivery to the CNS
Sohaib hourfane	STSM	Grant letter sent	Combined Experimental and Computational Exploration of Cannabis sativa and Boswellia carterii Phytocompounds: A Targeted Approach Toward Inhibiting Leishmania donovani

9. List of the Events in presence June-July 2025

- Conference in Antwerp (Belgium) 4-6 June 2025
- GP2A 2025, Paul Ehrlich MedChem 2025 & COST Action OneHealthdrugs Nantes (France) June 11th to 13th 2025
- Erasmus Mundus Summer School in Chemoinformatics Ljubljana (Slovenia) 30/6-4/7/2025

9.1 GP2A 2025, Paul Ehrlich MedChem 2025 & COST Action OneHealthdrugs Nantes (France) June 11th to 13th 2025



Person of reference for the COST Action: Prof. Pascal Marchand

<https://gp2a.org>

The Group for the Promotion of Pharmaceutical chemistry in Academia (GP2A) is a member-led network of academic medicinal chemists working in universities and research institutes in Europe.

Founded in 1992, as the Groupement des Pharmacochimistes de l'Arc Atlantique (GP2A) by medicinal chemists working within Schools of Pharmacy near the western coast of Europe (the "Atlantic Arc"), it has rapidly expanded and currently includes academic members from France, Spain, Germany, Portugal, Ireland, Italy and the United Kingdom. Our definition of medicinal chemistry is broad and membership is open to those working in areas as diverse as physical and pharmaceutical chemistry and molecular pharmacology as well as the traditional areas of natural product chemistry, pharmacognosy and drug discovery. This year the conference is co-organized with the COST Action OneHealthdrugs (CA21111) and the Paul Ehrlich medchem network.

Our primary aim is networking to enable exchange of ideas and experience. This is facilitated through two major activities: Our annual scientific conference and PhD student and post-doctoral research exchanges.

The network provides 4-6 bursaries to facilitate exchange between members' laboratories.

Registrations at the website, please register also for the COST ACTION session:

<https://gp2a.org/index.php/gp2a-2025-paul-ehrlich-medchem-2025-nantes-france-june-11th-to-13th-2025/>

On the OHD COST website:

<https://www.onehealthdrugs.com/events/scientific-meeting/next-meeting/33rdannual-gp2a-conference-xivthpaul-ehrlich-medchem-euro-phd-network-meetingcost-action-one-health-drugs-against-parasitic-vector-borne-diseases-in-europe-and-beyond-onehealthdrugs/>

9.2 Erasmus Mundus Summer School in Chemoinformatics Ljubljana (Slovenia) 30/6-4/7/2025



Explore Cutting-Edge Chemoinformatics and AI in Chemistry!

The Erasmus Mundus Summer School on Chemoinformatics is a prestigious international event supported by the Erasmus Mundus master's degree «Chemoinformatics+: Artificial Intelligence in Chemistry.» This well-established program gathers young and experienced scientists from academia and industry to explore AI-driven molecular and reaction design. This event is co-organized with the COST Action OneHealthdrugs (CA21111) as you can see in the inside program, with

a session dedicated to OHD COST Action workshop.

OHD COST Action person of reference: Prof. Podlipnik, Črtomir, University of Ljubljana

Lecturer from the COST Action: prof. Maria Paola Costi

Website:

<https://molekule.net/css2025>

Registration – please remember to tick the COST Action workshop participation and support request.

2-3 applicants will be selected for participation in the school.

COST Action participants are supported by the COST Action grant.

<https://molekule.net/css2025/>

if you check 4th page of the presentation, you will see the tentative program:

[Chemoinformatics_CSS2025_presentation](#)

10. First Strategic meeting for stakeholder engagement

On YEAR 3 we start the stakeholder engagement activity to meet the final objective of results exploitation.

The next appointment will be July 7, 2025 in Bruxelles in the COST Association premise.