



NEWSLETTER August - September 2024

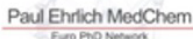
Reporting from the Oxford meeting 3-5 August 2024

Description. Investigating structural and functional aspects of macromolecular targets provide key information for the rational development of drugs against vector borne diseases. On this purpose, structural biology, combining different techniques, such as NMR, X-ray crystallography, bioSAXS, and cryoEM, is a powerful research field to obtain atomic-level information on the targets. Functional aspects are also investigated by different methods, such as *in silico* and bioinformatic studies, artificial intelligence, and biochemical and biophysical techniques. Additional ecotoxicological aspects will be included in the target description to expand the safety of the future drugs towards a protection not only of the human livings but also of environmental organisms. And then to human and animal life again, in a One Health approach. This workshop aims to spread knowledge on structural and functional aspects of key targets involved in vector borne diseases. The meeting was very successful and almost 60 participants from about 16 Countries attended the meeting. 43 from the COST Action CA21111. Others from London School of Hygiene & Tropical Medicine (UK), University of Oxford (UK), University of Nottingham (UK) and Baylor University (USA) as invited speakers.

The meeting was organized in 4 sessions, with invited speakers and speakers selected from the abstracts. 4 round tables were proposed for each session. The topics were: Biology and ecology of parasites ; **Session 2:** Drug discovery approaches towards VBDs ; CA21111 general meeting Stakeholders engagement plan and OHD Objective & Future plan (working together) and – OHD Academy. **Session 3 :** structural biology and biochemistry ; **Session 4:** Ecotoxicology and One-Health.

The different topics were discussed and we were able to connect different experts to fomulate new initiatives such as one paper writing on the semantic aspect of the One Health communication. STSM were planned and new events were organized. Other collaborations could be started.

It was an excellent meeting with many experts from different field had the opportunity to speak and interact, planning.



Fostering Innovation in Vector Borne Parasitic Diseases through Young Researcher Innovators within CA21111 OneHealthdrugs

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COST Action CA21111 OneHealthdrugs

COST Action CA21111 - OneHealthdrugs "One Health drugs against parasitic vector borne diseases in Europe and beyond" (<https://www.cost.eu/actions/CA21111/>) is a consortium of researchers dedicated to improving drug development for Vector Borne Parasitic Diseases (VBP) of humans and animals, through coordination of the discovery of drugs that help control human and veterinary VBP, adhering to the principles of the optimal profile for all organisms, while reducing the environmental impact of their associated research and the resulting new treatments.

Young Researcher Innovators (YRI) Horizontal Group (HG) 4

HG4 is composed by **97 YRI** (< 40 years). HG4 aims to stimulate YRI research, training and networking activities across all areas of VBP, by creating new knowledge and technologies according to the *OneHealth goals*. **HG4 is also committed to raise awareness and to make VBP research more environment-conscious.**



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53 countries, of which **20 ITC** and **273 members**
Chair Prof MP Costi (IT)
Vice-Chair Prof A Cordeiro-da-Silva (PT)



There is an urgent need to stop VBP in both human and veterinary settings according to the **One Health principles**.



WG1-6 and **HG1-7** activities cover VBP drug discovery research, ecotoxicology aspects, dissemination and communication



CA21111 and **HG4** include a wide range of activities and opportunities. **Some of them are exclusively dedicated to YRI!!**



Short-term Scientific Missions (STSMs):

STSMs are interlaboratory exchange visits on OHD topics and particularly intended for YRIs. These aim at strengthening the existing COST Actions by allowing scientists to go to an institution or laboratory in another COST country to foster collaboration, to learn a new technique or to use/apply instruments and/or methods not available in their own institution/laboratory. The STSM should last up to 6 months and shall be made within the time frame of the operation identified in the proposal and within the period of the respective Action. The financial support offer is a contribution to the overall expenses during the STSM (cover travel and subsistence expenses and is paid as a grant). The next grant application period starts in **October 2024** and all STSMs must be completed by **August 31, 2025**.

OHD Marathon:

CA21111 OneHealthDrugs organizes every the **OHD Marathon** in **November** to celebrate the **One Health Day** – an international event established by the One Health Commission (<https://www.onehealthcommission.org/>) - with **3-days of non-stop OHD presentations** and a **session dedicated to YRI and along with a YRI award for the best presentations!**



OHD surveys:



CA21111 OneHealthDrugs is implementing several survey investigating different OHD topics: **WG1 Compound Databases Survey**, **WG6-HG4 survey on One Health and sustainability principles integration into VBP drug discovery and development** <https://www.onehealthdrugs.com/working-area/surveys/compound-databases-survey/>

Women in STEM initiative:

CA21111 OneHealthDrugs celebrates the International Day of Women and Girls in Science with dedicated activities: a collection of interviews to OHD women scientists is available at



<https://www.onehealthdrugs.com/women-in-stem/women-in-stem-onehealthdrugs-cost-action/> and a YOUTUBE video <https://www.youtube.com/watch?v=ZM8QZTP-fDE>



Conference and ITC Conference Grants:

These grants are aimed at enhancing research collaboration where ideas and YRIs and PhD students from Inclusive Target Countries (ITC) can grow without borders by helping individuals to attend beneficial international conferences that are **not organized by COST Actions**. YRI who is affiliated with an institution located in an ITC country participating in the OHD can submit an application request for an ITC Conference Grant and must deliver an oral presentation at the conference. The application must be submitted at least 45 days before the conference start date. The next grant application period starts in **October 2024**.

Training Schools:

CA21111 OneHealthDrugs organizes two Training Schools per year aimed at training YRI on OHD topics. **The next Training School will be on Cell culture as in vitro models for VBP drugs, 25-27 Sept 2024, Poland.**



Stay Tuned! Next events, WG-HG meetings and workshops:

CA21111 OneHealthDrugs organizes several on-line and in-presence WG-HG meetings and workshops related to different topics. Check all scheduled OHD events in 2024 at <https://www.onehealthdrugs.com/events/calendar-of-onehealthdrugs-events-year-2-2024>

Next in-person event: Advancements in Structural and Functional Drug Discovery of VBP. 3-5 July 2024 Oxford

Special Issue One Health and VBP in ACS Infectious Diseases:



This Special Issue will highlight the development of drugs against human and animal vector-borne parasitic disease (VBP) using innovative technologies with minimal environmental risks. See the Editorial by Profs Costi & Cordeiro-da-Silva <https://pubs.acs.org/doi/10.1021/acsinfecdis.3c00304>



OHD newsletter: containing news concerning all OHD activities, past and future events and dissemination outputs



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OHD social media:



Cell culture as *in vitro* models for newly developed drugs against vector borne parasitic diseases within the One Health concept
TRAINING SCHOOL

Wednesday 25 September – Friday 27 September 2024

- University of Warsaw, Warsaw, Poland
- **Description.** Newly developed pharmaceutical compounds need to meet specific safety and efficacy criteria before progressing to initial evaluations. In the initial study phase, a key step involves testing these compounds for toxicity and effectiveness in a controlled lab environment. The primary objective of this Training School is to conduct *in vitro* examinations, focusing on how selected compounds impact the survival of protozoan parasites and their ability to infect host cells. If the compounds hinder the parasites from multiplying within host cells, it is considered as an inhibitory effect of the pharmaceutical compound. Furthermore, the *in vitro* testing will assess the toxic effects of these pharmaceutical compounds on selected cell lines. The study of the drug's toxicity should also consider that the drug will be released into the environment. Therefore, evaluating its toxicity towards representative organisms in the ecosystem is essential.

You are invited to **submit your filled Application Form** (download here) together with your short CV (no longer than one page) and an endorsement letter from the supervisor on institutional head paper **by the 11/08/2024** at the following address: Katarzyna Goździk (kj.gozdzik@uw.edu.pl). Successful applicants will need to create an e-COST account (<https://e-services.cost.eu>) and will receive an official invitation.

Abstract template can be found in the OHD website :

<https://www.onehealthdrugs.com/events/training-schools/training-school-cell-culture-as-in-vitro-models-for-newly-developed-drugs-against-vector-borne-parasitic-diseases-within-the-one-health-concept/>

In presence meeting. Novel leads and drugs for vector borne diseases: Targets and off targets (toxicity and ecotoxicity) and mechanism of action
September 19-20 2024
National Hellenic Research Foundation

We are excited to announce the international workshop “Novel leads and drugs for vector borne diseases: Targets and off targets (toxicity and ecotoxicity) and mechanism of action” organized in the context of the COST ACTION 2111-OneHealthdrugs – “One Health drugs against parasitic vector borne diseases in Europe and beyond”. The COST Action network aims to coordinate the discovery of drugs that stop vector-borne infections in both human and veterinary settings according to the principles of the optimal profile for these organisms, increasing quality and reducing environmental impact.

The workshop will be held from Thursday, September 19th, to Friday, September 20th ,2024, in Athens, Greece, at the National Hellenic Research Foundation. The workshop is jointly organized by WG1 “Compound libraries coordination and integration of compound design”, WG2 “Integration of early phase studies and low environmental impact actions”, and HG7 “Drug chemistry advancements in biodegradability including prediction” of the COST Action CA21111 OneHealthdrugs.

The workshop seeks to provide up to date information and integration strategy on sustainable drug discovery for vector borne diseases (VBDs). Special emphasis will also be given to new targets for VBDs and methods to study their engagement as well as on biodegradability and toxicity aspects pinpointing the effect on the environment. This collaborative event will provide a platform for scientists, academics, and industry professionals to share insights, methodologies, and advancements in the pursuit of environmentally conscious antiparasitic drug discovery.

We look forward to your participation and the submission of your abstract and we are delighted to welcome you in Athens to this intellectually rewarding meeting.

3. Next month (September) Initiatives planned. Invitation will follow for confirmation

	<p>WG3 meeting 6th September 2024 13:00-15:00 pm CET (VIRTUAL)</p>
	<p>WG3 Workshop "Formulation technologies for human and veterinary VBDs to reduce dose and environmental impact " 13th September 2024 14:00-17:00 pm CET (VIRTUAL)</p>
<p>September 2024</p>	<p>WG1 WG2 HG7 Thematic Workshop: " Novel leads and drugs for vector borne diseases: Targets and off targets (toxicity and ecotoxicity) and mechanism of action" September 19-20 2024, National Hellenic Research Foundation, Athens, Greece</p>
	<p>2nd Training School "Cell culture as in vitro models for newly developed drugs against vector borne parasitic diseases within the One Health perspective". 25-27 September 2024 -3days school. University of Warsaw, Faculty of Biology, I. Miecznikowa 1, 02-096, Warsaw, Poland</p>
	<p>HG4 meeting 26th September 2024 17:00-18:00 pm CET (VIRTUAL)</p>

4. Your section on STAKEHOLDERS

I would add some description here from your presentation