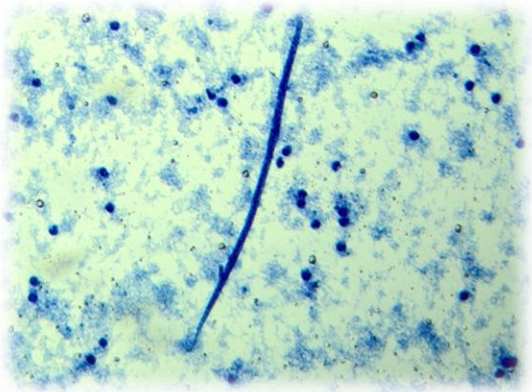
Training School of the COST Action CA21111

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

Wednesday 25 September – Friday 27 September 2024
Faculty of Biology, University of Warsaw, Warsaw, Poland

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



Dirofilaria repens, microfilairae - photo Mateusz Pękacz 2024

Where is Warsaw?

Warsaw is the capital and largest city in Poland.
It is located on the Vistula River in the eastern-central part of the country.

https://european-union.europa.eu/

Warsaw, the Old Town

https://go2warsaw.pl/

Warsaw, City Center

https://go2warsaw.pl/

UNIVERSITY OF WARSAW

FACTS AND FIGURES

1816

The University of Warsaw was founded in 1816.

6

University graduates have won 6 Nobel Prize awards:

Henryk Sienkiewicz, writer, winner of the 1905 Nobel Prize in Literature,
Czesław Miłosz, poet, prose writer, winner of the 1980 Nobel Prize in Literature,
Menachem Begin, prime minister of Israel from 1977 to 1983, received the Nobel Peace Prize in 1978,
Joseph Rotblat, physicist and radiobiologist, was awarded the Nobel Peace Prize in 1995,
Leonid Hurwicz, economist, winner of the Nobel Prize in Economic Sciences in 2007,
Olga Tokarczuk, prose writer, poet and psychologist, winner of the 2018 Nobel Prize in Literature.

49,800

The University community consists of:

8,000 employees,
36,300 students,
1,900 doctoral candidates,
3,600 international students and doctoral candidates.

25

The UW encompasses 25 faculties and over 30 research units.

over 1,600

The scholars participate in over 1,600 projects financed by national or international research programmes, such as EU framework programmes, European Science Foundation, European Cooperation in the Field of Scientific and Technical Research, European Molecular Biology Organization.

over 1,000

The UW cooperates with over 1,000 international and domestic partners.

44

The UW offers 44 English-language programmes.

more: https://en.uw.edu.pl/

UNIVERSITY OF WARSAW

The Main Campus

The Main Campus, 26/28 Krakowskie Przedmieście St.

The historic enclosure is one of the most enchanting areas of Warsaw. Beautiful sculptures decorating the buildings and the greenery the surrounds them make the Campus one of the most pleasant and often visited locations, and a favourite among both tourists and the residents of Warsaw.
The Main Campus and its vicinity are home mainly to the Humanities and Social Sciences faculties.

UW historical Main Campus

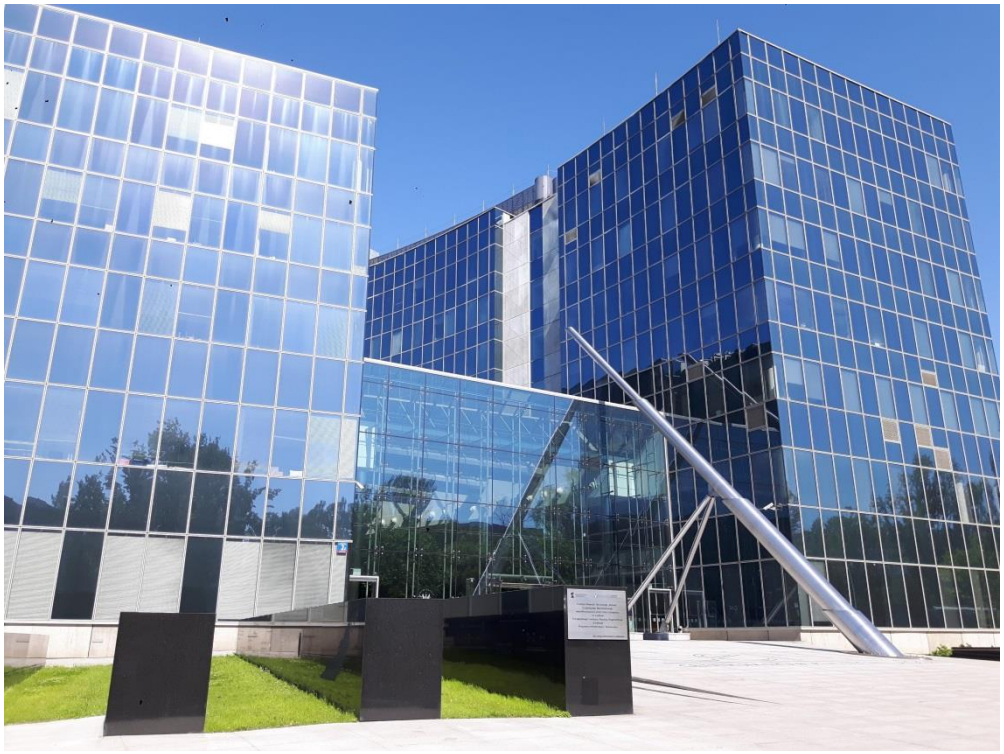
The Old Library Building/ It has the most lavish and sumptuous sculptural ornaments among all the university buildings.

https://en.uw.edu.pl/

UNIVERSITY OF WARSAW

The Ochota Campus

The Ochota Campus is home to research units conducting interdisciplinary research of special importance to medicine, environmental protection, industry etc.
They also developing new materials: ligands, chemical compounds which find application in pharmaceutics, material science and nanotechnology.



UNIVERSITY OF WARSAW | FACULTY OF BIOLOGY

The Faculty of Biology of the University of Warsaw is located in the Ochota Campus.
It includes eight institutes, a botanic garden, three field stations, and five laboratories/core facilities.

It hires nearly 380 employees, including ca. 200 academic staff.
Each year, about 700 students learn biology, biotechnology and environmental protection, while c. 120 graduate students develop their PhD projects.
The main building is located at 1 Miecznikowa St.; some laboratories and offices are also in the neighbouring Centre for Biological and Chemical Research.

more: https://www.biol.uw.edu.pl/en/home-page/

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Scientific Commitee:
Maria Paola Costi
Sheraz Gul
Katarzyna Goździk
Anna Zawistowska Deniziak
Ewelina Kiernozek

Organizing Commitee:
Katarzyna Goździk
Katarzyna Basałaj
Ewelina Kiernozek
Mateusz Pękacz
Przemysław Wilkowski

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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.

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Programme Day 1:

Lectures:

- Innovative *in vitro* models of immune cells for assessing immunosuppressive properties of parasites and their application in drug impact analysis within the One Health Concept.
  Prof. Anna Zawistowska Deniziak, Department of Immunology, University of Warsaw

- Antibacterial and antiparasitic activities of triterpenoids from marigold (*Calendula officinalis*).
  External speaker: Prof. Anna Szakiel, Institute of Biochemistry University of Warsaw

Practical Work, Demonstrations & Group Activities

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Programme Day 2:

Lectures:

- Plant-derived compounds as a potential anti-parasitic therapeutic agents in an *in vitro* and *in vivo* model.
  Dr Katarzyna Goździk, Department of Parasitology, University of Warsaw

- Selection of new diagnostic markers for *Dirofilaria repens* infections with the use of phage display technology.
  PhD Student Mateusz Pękacz, Department of Immunology, University of Warsaw

Practical Work, Demonstrations & Group Activities

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Programme Day 3:

Lectures:

- Monoclonal antibody libraries for selecting scFv antibodies specific to parasite antigens: potential therapeutics for blocking vital parasite functions.
  Dr Katarzyna Basałaj, Department of Immunology, University of Warsaw

- New approaches to water and wastewater treatment methods: a review.
  External speaker: Master of Engineering Andrzej Dziuba, Chief Technologist in INŻYNIERIA RZESZÓW

Practical Work, Demonstrations & Group Activities, Team presentations

Closing remarks

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You are invited to submit your filled Application Form together with your short CV and an endorsement letter from the supervisor on institutional head paper by **11/08/2024** at the following address: Dr Katarzyna Goździk (kj.gozdzik@uw.edu.pl).

See you in Warsaw!