



European Animal
Research Association

EARA News Digest 2022 - Week 29

Welcome to your Monday morning update, [from EARA](#), on the latest news in biomedical science, policy and openness on animal research.

Media

A fast alternative to fabricate organs-on-a-chip

A prestigious [international 3Rs prize](#) has been awarded for an innovative way to produce organ-on-a-chip systems cheaply and faster.



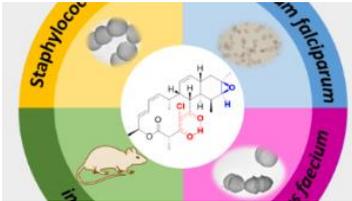
The prize, awarded by UK NC3Rs and sponsored by GSK, has gone to Dr Daniel Ferreira, at EARA member [i3S University of Porto](#), Portugal (pictured).

He and his colleagues devised a method to enable organ-on-a-chip systems to be designed, developed and printed with commercially available equipment and materials.

Organ-on-a-chip devices consist of cells and/or tissue grown in [microfluidic chips](#), which are composed of a clear flexible polymer - the chips are designed to closely mimic human physiology of a specific organ.

[In his research](#), Daniel demonstrated how the chips can be rapidly designed and assembled to make them more accessible to labs worldwide. He will now use the prize money to establish a microfabrication lab.

Research



Harnessing nature to combat bacterial infection

A powerful new semi-natural anti-bacterial substance has been developed by researchers in Germany to treat infections.

The [study](#) by a team at the [Helmholtz Institute for Pharmaceutical Research](#), and the [Helmholtz Centre for Infection Research](#), in collaboration with [Saarland University](#), first produced a natural substance (chlorotonil) from the fermentation of the soil bacterium (*Sorangium cellulosum*).

Although this natural substance has been proven to kill bacterial infections commonly found in hospitals, such as *Staphylococcus aureus*, it has been found not to be suitable to be used on human patients.

The group therefore then tried to alter the chemical structure of the substance in the lab to make it ideal for animal and patient use.

They designed 25 chlorotonil- based substances, and from those, only one was proven effective when tested in mice with the infection.

They found that this substance could reduce the infection in mice ten times more effectively than the natural one.

“The good efficacy in the mouse model makes us confident that the new molecules could also be suitable for application in humans. However, to minimise the risk of unexpected side effects occurring here, further parameters need to be investigated beforehand.”, said [Jennifer Herrman](#), at HIPS.

Research

Breakthrough as genetic atlas for zebrafish is completed



The most comprehensive [atlas of genetic data on zebrafish](#), has been published.

The initiative, by the international [DANIO-CODE consortium](#), a global team of [27 laboratories](#), including EARA members [Institut Curie](#), France, and the [Max Planck Institute](#), Germany, has been published in in [Nature Genetics](#).

[Ferenc Mueller](#), Professor of Developmental Genetics University of Birmingham, UK, who led the consortium, said: "The cataloguing of genetic information for zebrafish is a significant breakthrough that could underpin some of the most exciting medical and life sciences developments for years to come."

Zebrafish are used as a model in more than 1,200 laboratories worldwide for animal studies and the atlas will help researchers study conditions from various types of cancer (e.g. skin cancer), heart disease, and neurodegeneration and may help to replace mammal models in studies.

The team matched epigenomic data - a visualisation of the interaction between genes and the environment- of zebrafish and mice and predicted a correlation between these two animals.

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