



# Pioneering Perspectives: Twente as a Hub for Transitioning to Animal- Free Innovation

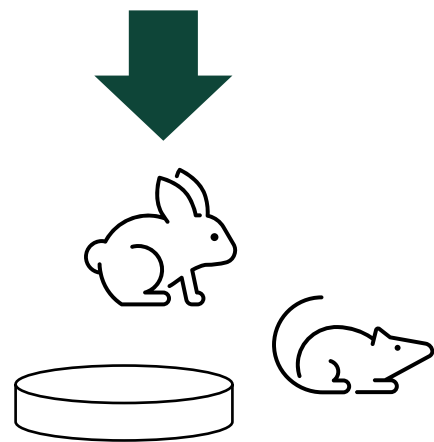
Carlo Alberto Paggi, Chiron

# DISCLOSURE

Carlo Alberto Paggi is co-founder of chiron an organ-on-chip company specialized in biomechanical stimulation of 3D cell constructs



# Why Move Beyond Animal Testing?



Pre-clinical

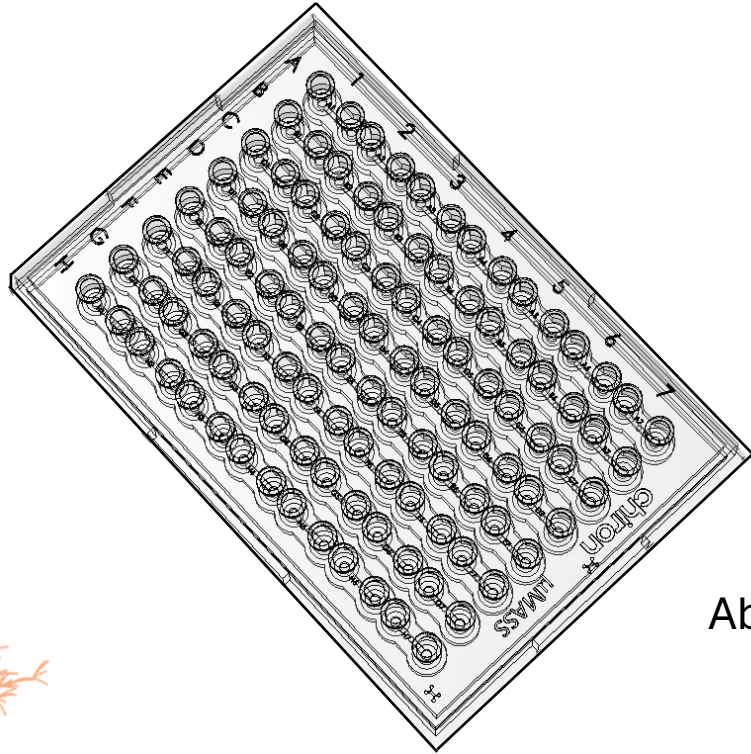
**- NO RELIABLE MODELS**

Phase I

Phase II

Phase III

# Organ-on-Chip: A Revolutionary Alternative

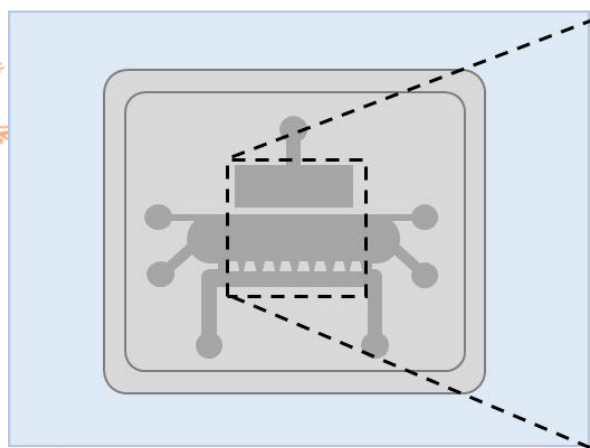


**Miniaturized models able to recapitulate key characteristics of human physiology while providing full control on potential variables (e.g. biomechanical and biochemical stimulation)**

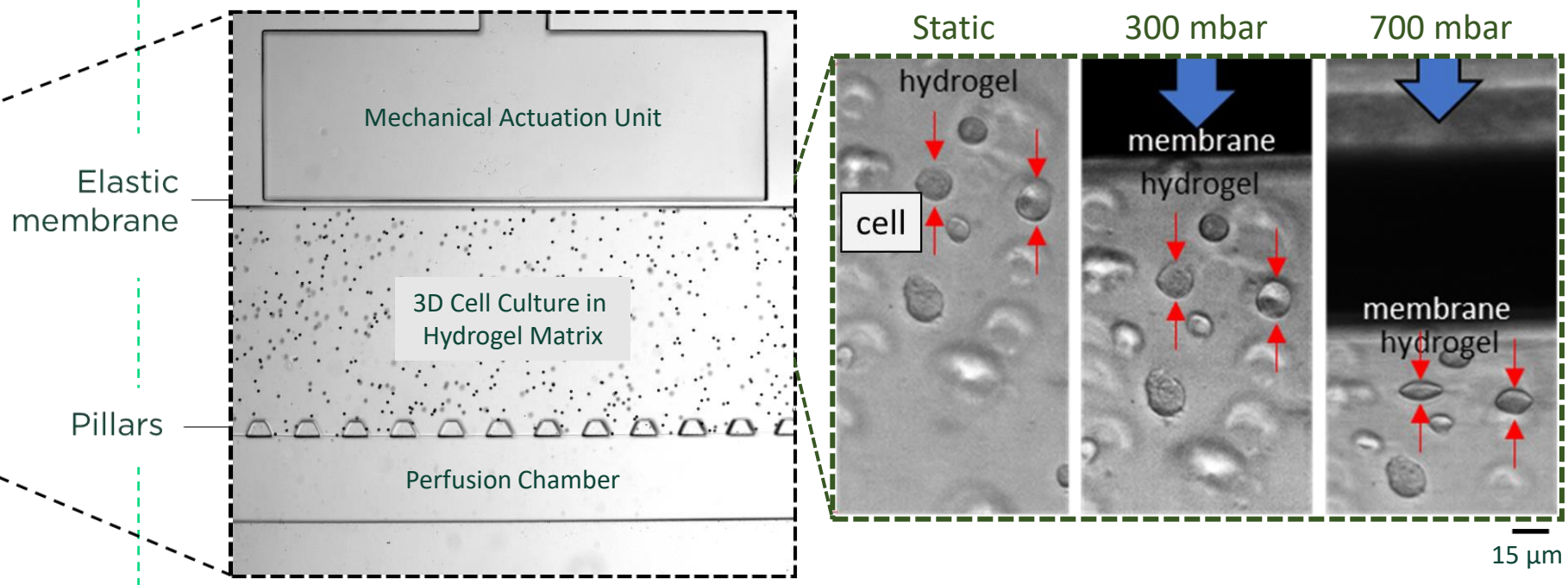
Ability to simulate real human responses, leading to more accurate results in drug testing and disease modeling.

# Chiron's Role in Animal-Free Innovation

Chip illustration



Under the microscope



**Mechanical stimulation** with pressure applied to flexible membrane, via connected air pump, and **real-time visualization** under the microscope during experiments

# Collaborating for a Better Future



**Company founded: 2022**

**Spin off of University of Twente**

**Collaboration:**

Academia

Research institute

Hospital

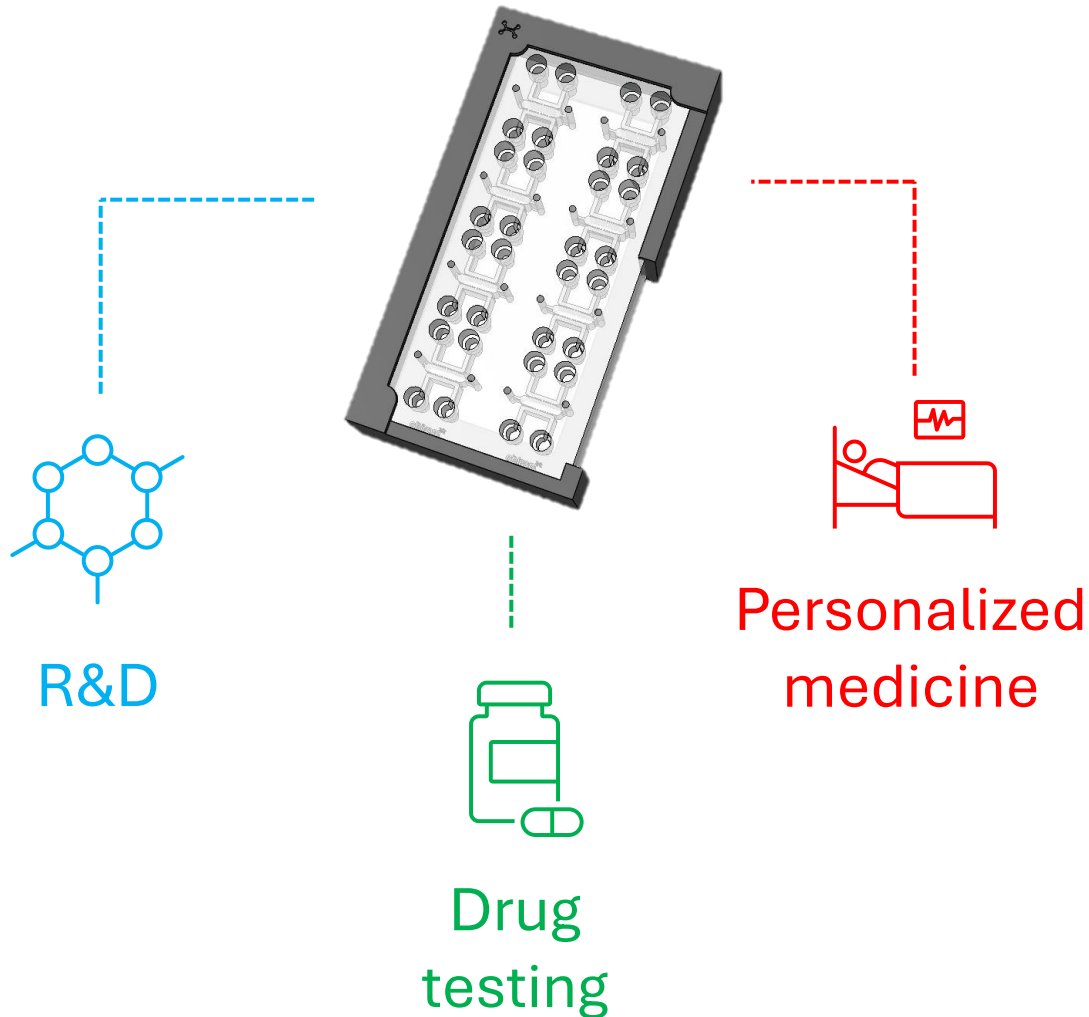
Pharmaceutical companies

**Objectives:**

- develop more effective treatments
- reduce drug development time
- lower costs

**help streamline the development of therapies while improving patient outcomes and reducing reliance on animals**

# The Road Ahead for Animal-Free Innovation



Medicines ▾ Human regulatory ▾ Veterinary regulatory ▾ Committees ▾ News & events ▾ Partners & networks ▾ About us ▾

Home > News > EMA implements new measures to minimise animal testing during medicines development

EMA implements new measures to minimise animal testing during medicines development

## Innovative Science and Technology Approaches for New Drugs (ISTAND) Pilot Program

“The FDA Modernization Act 3.0 will cut burdensome red tape to allow drug manufacturers to use modern and more humane alternatives to improve safety for animals and patients alike. 6 Feb 2024

# The Road Ahead for Animal-Free Innovation

## Centre of Expertise

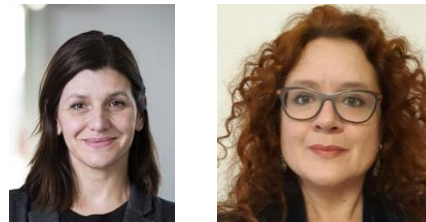


**UNIVERSITY OF TWENTE.** | Organ-on-Chip Centre Twente



## Global Education Hub

The global education hub for animal-free education, initiated by TPI Utrecht and [Peta UK](#), is a collaborative space for the exchange and co-creation of educational resources. Through this project, the hub strives to advance animal-free education and education about animal-free research methods, emphasizing the significance of innovative non-animal models and the importance of unified efforts in shaping the future of education.



## National Funding



National Growth Fund invests 125 million euros in animal-free innovations

The Dutch National Growth Fund will invest 124.5 million euros in a new centre for animal-free biomedical testing. Of this investment, 55 million





# Join the Movement Towards Ethical Innovation

Better drug pre-clinical assessment  
Enhanced discovery capabilities  
Human-like biological processes  
Potential for personalized medicine



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

Connect us on linkedin

Let's find new  
treatments... **TOGETHER**

Thank you



Our website

