

## Workshop: Prospects and limitations for *in vitro* models to study host-pathogens interactions

An *in vitro* system to study host-pathogen interactions requires the ability to isolate and grow the pathogen and its inoculation onto suitable host cells on (typically) plastic surfaces, however new technologies allow us to better mimic an *in vivo* state, adding physiological relevance to the studies.

Membrane culture inserts provide a permeable support on which seeded cells can attach and form confluent monolayers. By replacing apical media with either freshwater or seawater, culture conditions can be modified to establish asymmetrical systems which produce a cell culture environment that enables the establishment of effective polarised epithelia and more closely resembles the *in vivo* state. This static system can be improved by using continuous flow of medium across cell culture and is already being used to study surface cultures and barrier models such as cornea, skin, respiratory systems gut and kidney.

The use of ex vivo explants, and primary cell cultures will be discussed.

A section on the culture of fastidious viruses and other non-cultured parasites will aim to discuss current developing methodologies, such as CRISPR editing of cell lines and transcriptomic analysis to reveal host-parasite interactions.

Delegates are encouraged to join us with oral and poster presentations, we expect a brain storm of ideas and potential future collaborations. A joint article on this workshop will be published in the EAFP Bulletin.

This is an open workshop, organized by Irene Cano, Richard Paley (from Cefas, UK) and Patricia Noguera (Marine Scotland, UK).

