

Apollo microbes detector is a breath of fresh air

With 90% of our time being spent indoors, the air we breathe can have a significant impact on our health. For asthma and allergy sufferers, exposure to aeroallergens can exacerbate symptoms. Allergen remediation techniques are a simple way to manage symptoms, but first, it's essential to identify the cause and ensure that the appropriate action is taken.

The presence of certain allergens and microbes in indoor environments can have a negative impact on individuals, especially those with asthma and cystic fibrosis. Aerosolised microbes can also have a significant impact in healthcare, food and wastewater settings, both from a safety and economic perspective. Currently, those concerned about allergen or microbe exposure have limited options when it comes to monitoring their environments, often relying on devices that are expensive, inaccurate, noisy and difficult to use.

Over the past twelve months, work has been undertaken to test Apollo's ability to detect

Following the successful launch of Apollo for aeroallergens - an easy to use, cost effective and quiet air sampler - InBio is now expanding its capabilities to detect airborne microbes, in collaboration with Cardiff Metropolitan University through the Welsh Government SMART Partnership support.

airborne microorganisms. As part of this work, several microorganisms, including bacteria and viruses have been aerosolised within a specialist test chamber, followed by air sampling with Apollo and subsequent filter extraction and microbial quantification. To date, several industry and healthcare relevant bacteria including *E. coli* and *K. pneumoniae* have been aerosolized and

successfully detected with Apollo. Initial tests demonstrated the ability of Apollo to sample viable bacterial cells. This methodology was later adapted for molecular quantification of microbes, which allowed for longer sampling durations and resulted in increased levels of bacteria detection. Early tests have shown that Apollo also has the ability to sample and detect viable airborne bacteriophages, which are commonly used as surrogates for human pathogenic viruses. This promising data provides a good basis for continued R&D to expand the range of tested microorganisms to include fungi and spores and validate Apollo's use in industry applications.

Upon completion of this work, InBio hopes to secure further funding to build upon the findings of the SMART Partnership to offer new services for microbial exposure to our current market, but also expand into new, high growth areas with significant potential.

