

Annual Congress 2021 of the European Academy of Allergy and Clinical Immunology

A new era in outdoor allergen exposure studies

(Krakow, Poland, 11 July 2021) Anthropogenic environmental pollution is an increasing threat to human health and wellbeing. The burden of non-communicable diseases has increased in parallel around the globe, with chronic disease accounting for an estimated 70-80% of European health costs. Understanding the relationship between human exposure and the development of such diseases, for example seasonal pollen allergies and asthma, requires accurate environmental observations. This information is vital for proper diagnosis, symptom management, research, clinical trials, as well as therapy development and evaluation.

The current standard to measure airborne pollen and fungal spore levels - which cause seasonal allergies and asthma and affect over 20% of the European population - uses manual methods developed in the 1950s. This technique provides daily average values with a delay of up to 9 days after the measurement. In a day and age where real-time information from smartphone applications is omnipresent, this seems somewhat of an anachronism.

Recent technological advances have made possible automatic measurements of pollen and fungal spores, meaning that reliable data can be provided at up to hourly resolution in real-time. Furthermore, these measurements can be fed directly into forecast models, just as is done for weather forecasts. Together, the provision of both real-time observations and improved forecasts is significantly improving the information that can be made available to allergy-sufferers, medical practitioners, and other end users, such as researchers.

To promote the development of an extensive automatic pollen and fungal spore monitoring network across Europe, the EUMETNET AutoPollen Programme was established in 2018. This innovative Programme is working to develop the entire information chain, from the initial measurement through to the products tailored specifically for different end-user groups.

The provision of real time information is leading the way to better prevention and management of allergy symptoms, almost certainly leading to a notable decrease in the direct and indirect health costs associated with allergy in Europe. A continental measurement network to meet end user requirements would thus more than pay for itself in terms of potential annual savings. As an additional benefit, it is providing significant impetus to research across a range of disciplines from climate science and public health through to agriculture and environmental management.

“There is a unique opportunity to revolutionise the information being provided to allergy-sufferers, medical practitioners, and other end-user groups through the establishment of an automatic pollen and fungal spore monitoring network across Europe. The EUMETNET AutoPollen Programme is working towards developing and growing this network and it is vital we continue to work with all stakeholders to ensure maximum benefit for all end-user communities,” says Dr. Fiona Tummon, AutoPollen Scientific Coordinator, Federal Office of Meteorology and Climatology MeteoSwiss, Payerne, Switzerland.

**About EAACI:**

The European Academy of Allergy and Clinical Immunology (EAACI) is an association of clinicians, researchers and allied health professionals founded in 1956. EAACI is dedicated to improving the health of people affected by allergic diseases. With more 13 000 members from 125 countries and over 75 National Allergy Societies, EAACI is the primary source of expertise in Europe and worldwide for all aspects of allergy.

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