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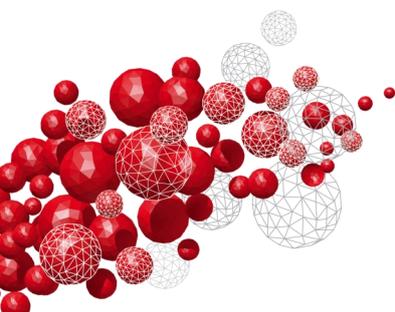
## Aerosol characterization with Dekati® HR-ELPI®+ in hospital areas during health care interventions with COVID-19 patients

The wide number of healthcare workers infected with the SARS-CoV-2 and the discussion of airborne aerosols as a transmission route has led to the development of several studies characterizing ambient air in hospitals and clinical areas. This type of research can establish recommendations about the appropriate uses of personnel protection equipment and other sanitary products in different locations and during different activities with patients.

With the aim of achieving a better knowledge about the generation of aerosols during medical care interventions with patients infected with COVID-19, the General Council of Nursery (CGE) and the National Institute of Aerospace Techniques (INTA) in collaboration with the Spanish Hospital “12 de Octubre” are carrying out a project focused on aerosol characterization (mass & number concentrations, size distribution and LDSA), and the assessment of viral load in the air in different hospital areas. Dekati® HR-ELPI®+ is used to characterize aerosols in several rooms and patient care units inside a hospital, where a wide variety of different types of medical care interventions are carried out.

In the present research, health care interventions typically identified as “aerosol-generating procedures” (AGP) such as mechanical invasive ventilation procedures including changing the nasal tubing, tracheal suctioning, blood culture collection, and high-flow nasal canulae (HFNC) and oxygen masks have been studied. These activities have been found to increase ambient air particle number concentration in the studied particle size range (from 6 nm up to 10 µm). Therefore, it could be inferred that the aerosols generated are SARS-CoV-2 carriers that may contribute to the spread of the airborne virus.

For more information:  
VICTOR ARCHILLA PRAT  
archillapv@inta.es



**Dekati Ltd.** ▶ Tykkitie 1 FI-36240 Kangasala, Finland ▶

Tel. int +358 3 3578 100 ▶ E-mail [sales@dekati.com](mailto:sales@dekati.com) ▶ [www.dekati.com](http://www.dekati.com)