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Australian Nuclear Science and Technology Organisation

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World-first pollution detector

An ANSTO collaboration with researchers at the universities of Basel and Bern in Switzerland will use two strategically-placed detectors to monitor atmospheric radon concentrations in the Swiss Alps.

The world-first detection system has been developed by ANSTO scientists for a three-year study investigating pollution transport from North Africa and Southern Europe over the Swiss Alps. One of the detectors is located at the World Meteorological Organisations site at Jungfraujoch in the Swiss Alps, at an elevation of around 3,450m above sea level. The second is located on the roof of the Institute of Physics at the University of Bern, 60 km from the first detector, at an altitude of around 550m.

The aim of the project is to construct a high resolution map identifying the main source areas contributing to pollution outbreaks that penetrate the natural barrier of the Alps. "This is a great research opportunity for us, as the outcome will assist future remedial actions by focusing them on the high impact areas identified by our study," said Dr Wlodek Zahorowski, the scientist coordinating ANSTO's contribution to the project.

The Jungfraujoch station is hosted by the International Foundation of High Altitude Research Stations, which coordinates research programs run by scientists from around the world.

Radon-222 is a naturally occurring radioactive isotope widely used as a tracer in ground-based and airborne weather, pollution and climate studies. The project has now commenced, following two years of development and testing.

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