# ERC Grant for One-step COVID Detection

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Christelle Prinz, professor of solid state physics and affiliated to NanoLund, receives 150,000 euros to further develop research results that are considered to have great innovation potential by the European Research Council.

For several years, physicist Christelle Prinz has developed nanotechnology to diagnose and study diseases in various ways, such as cancer. In an ongoing ERC project, she and her colleagues are developing a method to study cancer cells at the individual level. For this project, she now receives extra funding.

The purpose, though, is completely different: One of the techniques used to study cells has proven useful for detecting viruses – including the one causing Covid-19.

Unlike today's PCR test, results can come after a few minutes, according to Prinz. In addition, they become cheaper to manufacture and read. If everything goes according to plan, a test like this could be used in a year at the earliest.

## Easy testing before a work shift

"There is a great need for testing even after the vaccination has started. For example, that home care staff or others who work with the elderly can test themselves quickly and easily before they go out on a work shift", says Christelle Prinz.

The European Research Council Magazine states: The WHO recommendation to test, trace, and isolate requires fast and wide-scale testing of the SARS-CoV-2 virus. The sampling and processing complexity of currently available tests pose a challenge to our healthcare systems. Widely used polymerase chain reaction (PCR) tests take several hours and require advanced laboratory equipment, which adds to the difficulty of tracing and isolating patients rapidly.

## The goal: efficient, rapid, one-step tests

Christelle Prinz will build on her previous findings and apply a method developed as part of research funded by her earlier ERC Consolidator Grant, which could help enable a single-step detection of the virus. Her team will use low-cost reagents technology to develop more affordable tests than those currently available on the market. Their goal is to develop rapid, one-step tests with efficiency superior to the antigen tests and comparable to PCR tests.

By detecting the virus directly, the test will identify only active infections. Its high accuracy would cut-down false-positive and false-negative results, while easy usage aims to eliminate the assay complexity. It could facilitate smoother workflows in the laboratory and point-of-care diagnostics. The project team also foresees that this technology could be extendable to the detection of other viruses. Its affordability should make it widely used and accessible to developing countries.

Read the original article on NanoLund.