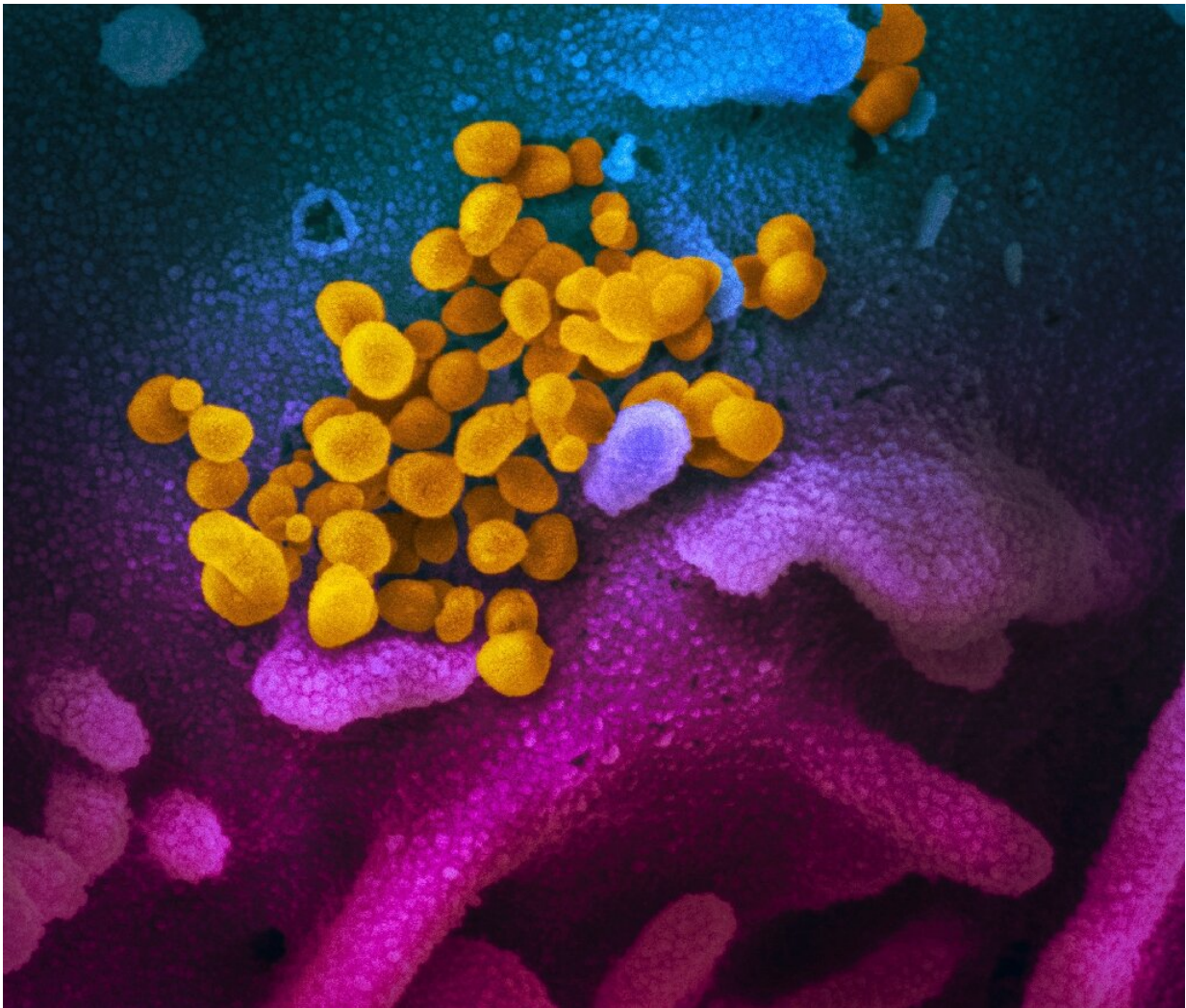


Australia enlists particle accelerator in coronavirus fight

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Scientists around the world are racing to find vaccines and treatments for the new coronavirus, which has become a raging pandemic

Australian scientists are using the largest particle accelerator in the southern hemisphere to help fast-track the hunt for a vaccine against COVID-19, researchers said Tuesday.

The Australian Synchrotron in Melbourne uses intense X-rays emitted by electrons coursing through the accelerator to examine key proteins in the virus, programme director Andrew Peele told AFP.

Acting as a kind of microscope, the accelerator lets the researchers construct atomic-level 3-D maps of the proteins so they can develop drugs that bind to the virus, potentially preventing or treating the disease.

"We shine the light on the proteins and the light that scatters off them tells us where every atom in the (COVID-19)protein molecule is," Peele said.

"You need to know what the protein looks like so you can design a drug to attach to it," he added.

"It's like designing a key for a lock, you need to know the dimensions of the keyhole."

Researchers from around the world have sent the Melbourne team dozens of sample of proteins which they think might bind with the COVID-19 virus in a way that could minimise or protect from the disease, Peele said.

"Using our technology, within five minutes you can understand why a drug does or doesn't work in attaching to a COVID-19 [protein](#)," Peele said, likening the process to completing a [jigsaw puzzle](#).

The government-funded project hopes its fast-tracking technology will shorten the normal development time for effective vaccines.

Scientists around the world are racing to develop vaccines and treatments for COVID-19, which has turned into a raging pandemic that has killed tens of thousands and infected more than 750,000 people across the planet.

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