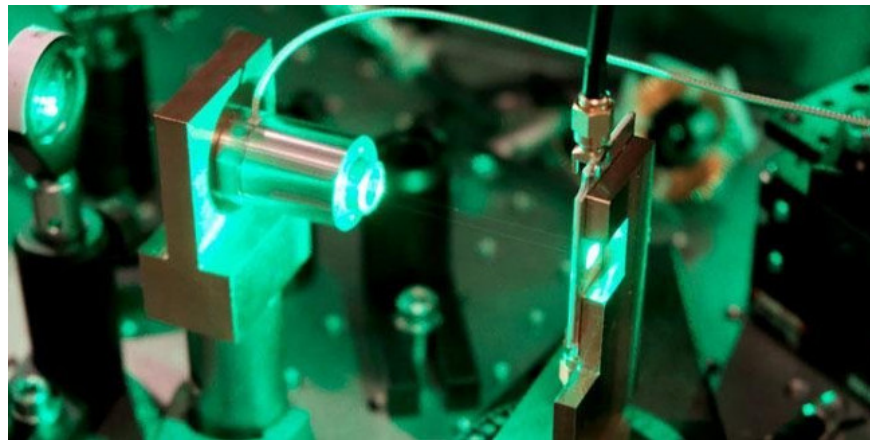


# Quantum physics provides new knowledge about the brain

In a new project, a group of leading quantum physicists with an insight into images such as MRI scanning, will test for the first time and develop new technologies for biological materials. The goal is to create extremely high resolution images of the brain and with higher sensitivity than usual.

In a new project, a group of leading quantum physicists and scientists with extensive experience in using images, such as MRI scans, will test for the first time and develop new technologies. about biological materials and neuroscience. The goal is to create images that have higher resolution and accuracy of the brain than previous methods.

Professor Ulrik Lund Andersen, DTU Physics explains: *"The human brain is an extremely complex system that has many functions that we still don't understand. One of the biggest challenges today is to achieve A deeper understanding of the brain as well as its basic principles: When equipped with a lot of knowledge about how brain activity and brain signals move, we can understand more about Brain-related diseases like Alzheimer's can be cured "*.



DTU's team has developed a number of new measurement techniques that use the principles of quantum physics to provide extremely detailed images of human tissue and mouse brains.

However, these techniques now need to be developed in-depth, while newly developed quantum technology measurement methods are first used in the fields of biology and physiological neurology.

*"The upcoming project will use quantum physics to measure the activity of muscles and brain in living tissue . "* Leading scientists Axel Thielscher, DTU Associate Professor Electrical Engineering and senior researcher at Hvidovre Hospital said: *"Quantum technology measurements will also give us the amount of knowledge and information. necessary inputs to further develop more optimal measurement methods'.*

Researchers at DTU are working with three different methods that provide different results regarding the sensitivity and resolution of images. These methods will be used to detect activity in the muscles and nerves.

In the long run, thanks to this method, scientists can continue to improve the visual reproduction of both the brain, the cerebral circulation, and the smallest synapses with resolution at the nano-molecular level.

A deeper understanding of the brain is not only interesting for the medical field and has the ability to prevent or cure brain-related illnesses.

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