

Violin and subatomic particle duet set to be performed at leading UK particle physics lab

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One of the world's leading physics laboratories is set to stage a unique musical duet between a violinist and radioactive subatomic particles later this month.

ISIS Neutron and Muon Source, based at the Rutherton Appleton Laboratory in Oxfordshire, is regarded as one of the UK's major scientific achievements in the last 30 years and has played a part in a number of breakthroughs in physics and chemistry since it was commissioned in 1985.

Now it will play host to an experiment of a different kind as innovative music composer Alexis Kirke brings his contemporary Cloud Chamber composition to the 'venue' later this month.

Alexis, a member of Plymouth University's Interdisciplinary Centre for Computer Music Research, rose to prominence when he used the rising sun and the city's iconic Roland Levinsky Building as musical instruments in his Sunlight Symphony in 2010.

Now his latest work operates on an altogether smaller scale. Alexis said: "A piece of physical apparatus, called a cloud chamber, will be saturated with ethanol and cooled by liquid nitrogen.

"The [subatomic particle](#) tracks are made visible by this cloud chamber and a camera above the chamber will follow some of the particle tracks, converting them into synthesized music which accompanies the violin. The image from the camera is also magnified onto a screen for the audience to see."

Musician Ben Heaney will play the violin, which will be connected electrically to the chamber. The instrument's amplified sound will also be sent to an electronic field system positioned near the particles, which will create a force field in the chamber, directly affecting the behaviour of the particle tracks, effectively enabling the ions and the violinist to influence each other musically.

Cloud Chamber debuted at the Peninsula Arts Contemporary Music Festival in Plymouth in February 2011, and this will be only the second public performance of the piece. Alexis, who is also composer-in-residence of the Marine Institute at Plymouth University, has been keen to collaborate with ISIS since he visited in 2010

ISIS is owned and operated by the Science and Technology Facilities Council. Spokesman Dr Martyn Bull said: "We are very pleased that our collaboration with Alexis to create music inspired by the research at ISIS will be performed at the second target station. Cloud Chamber composition is an extremely imaginative and creative convergence of

ground-breaking science research and [music](#) performance.”

The performance will take place on January 28th at the £145 million Second Target station, which was completed in 2008. ISIS is currently building a second set of instruments, one of which, called Chipir, will be a unique facility in Europe for testing for the effects of cosmic radiation particles on the electronics found in aircraft, mobile phones and medical equipment.”

Provided by University of Plymouth

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