

The sound of science – quantum science, that is

The Quantum Music Project March 21 and 22, 8pm, NUS University Cultural Centre

SINGAPORE is the first country in this part of the world to listen to what could well be the music of the future, with the Asian debut of The Quantum Music Project, formed just over two years ago.

It's an international collaboration between physicists, professional pianists and composers, alongside musicologists and sound engineers.

The concert here will be performed by LP Duo, comprising classical musicians Sonja Loncar and Andrija Pavlovic, who were involved in the project from the start; along with engineer Dragan Novkovic, and physicists Vlatko Vedral and Andrew Garner, who are attached to the Centre for Quantum Technologies in Singapore. Dr Vedral and Dr Garner had been involved from the time they were in Oxford. The former was one of the founding members of the Project as well and roped in the latter, whom he was supervising at that time.

"Quantum science is actually a good source of inspiration for art, and scientists also need artistic stimulation. Contrary to the idea that quantum science is all about maths, researchers need a fair bit of intuition as well," says Dr Garner, who worked on the development of quantum software instruments, "Quantum technology is shocking, which makes it a good subject for art."

How does the music work? Briefly described, the software that's fixed to the pianos is designed according to quantum technology ideas, so that it

musically reflect the ideas. What the audience hears is still music as we know it, but it's written and processed differently from standard music as we know it today.

"We found out that the duality is a principle of many quantum laws, (and) maybe a fundamental philosophy of the quantum mechanics," quips Pavlovic, "So it is good that (Loncar and I) are a duo."

Two Yamaha grand pianos are fitted with 88 micro controllers, one for each key, which can trigger any sound from the computer. "With this new technology we can play synths or quantum sounds, light, video, anything, on the acoustic piano," says Loncar.

The concert will be a multi-media show consisting of 10 chapters. Each describes the laws of quantum mechanics through the picture, performance and, for the first time, through the sound. They are based on Dr Vedral's lectures.

"When we speak with physicists and when we work on the Quantum Music project, we really feel there is an entire cosmos of knowledge and inspiration," says Loncar.

He adds The Quantum Music Project is connecting the worlds of music and science, hopefully opening some new doors on both sides.

So, if you wanted to learn more about quantum physics, but can't understand the mathematics, maybe you can grasp it through music.

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■ The Quantum Music project is co-funded by the Creative Europe Programme of the European Union. Tickets from S\$19 are available from www.apactix.com.



LP Duo
(Sonja Loncar and Andrija Pavlovic) performing Quantum Music.
PHOTO: LP DUO