

King's College London awarded access to the Willow processor from Google Quantum AI through NQCC for high-impact scientific research



(Oxfordshire, UK; 28 May 2026): The National Quantum Computing Centre (NQCC) and Google Quantum AI today announced King's College London (King's) has been awarded access to the Willow processor as the named recipient of a joint initiative to explore novel applications for quantum computing.

Launched in December 2025, the call for proposals was created through a collaboration between the NQCC and Google Quantum AI to support pioneering research that could help accelerate progress toward useful quantum advantage. This is the point at which quantum computers can solve certain problems of practical relevance faster than today's most powerful classical systems. This is the first time that Google has partnered with a British government institution to provide access to the Willow processor.

The initiative invited proposals from UK researchers and research consortia seeking access to Google Quantum AI's Willow quantum processor, recognised for its world-leading advances in quantum error correction. The initiative sought ambitious, high-impact research projects capable of expanding the frontier of practical quantum computing applications.

Press Release

Dr Eleanor Crane leads the winning proposal from King's and Dr Alexander Schuckert from ENS Paris, who also co-lead a finalist team in the Google XPRIZE Quantum Applications challenge. It focuses on modelling and studying quantum analogues of neurons using the Willow processor, in collaboration with Dr Chris Timmermann, Co-Director of the UCL Centre for Consciousness Research. The research aims to investigate how quantum computing techniques could contribute to understanding complex quantum dynamics by studying a new type of problem inspired by neural systems, thereby opening new avenues for collaboration between computational neuroscience and quantum-enabled modelling.

The King's research team will work closely with experts from Google Quantum AI to design and execute experiments on the Willow processor. The NQCC will provide technical expertise and support throughout the project to help maximise the scientific impact of the collaboration.

Congratulating the King's team, Dr Michael Cuthbert, Director at the NQCC commented:

"This initiative reflects the UK's commitment to fostering world-class quantum research and enabling researchers to access advanced quantum computing capabilities. We are excited to support King's College London in exploring innovative applications that could help shape the future of quantum computing."

Google Quantum AI COO, Charina Chou, added:

"We see tremendous potential in quantum computing as a new tool to help scientists make advances across a variety of fields where classical computing hits fundamental limits. King's has made a compelling research proposal, and with the NQCC's invaluable support, we're eager to offer our quantum computing resources and expertise to accelerate this work."

King's College London Project Lead and Quantum Computing Lecturer, Dr Eleanor Crane, said:

"We are over the moon at working once again with our collaborators at Google, this time on pushing the limits of where quantum computers could exceed the capabilities of classical computers. This is some of the only hardware worldwide currently which would provide such complex simulations, so we are grateful to the NQCC and Google for this opportunity."

More information can be found at: <https://www.nqcc.ac.uk/news-and-events/press-releases/>

Press Release

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About NQCC:

The NQCC is the UK's national lab for quantum computing, dedicated to accelerating the development of quantum computing by addressing the challenges of scaling up the technology. The centre is working with businesses, government, and the research community to deliver quantum computing capabilities for the UK and support the growth of the emerging industry.

The NQCC's programme is being delivered jointly by UKRI's research councils, EPSRC and STFC. It is a part of the National Quantum Technologies Programme (NQTP) to develop and deliver quantum technologies across the areas of sensing, timing, imaging, communications and computing.

The centre is headquartered in a purpose-built facility on STFC's Rutherford Appleton Laboratory site at the Harwell Campus in Oxfordshire.

About Google Quantum AI:

Google Quantum AI is a pioneering research and development team whose mission is to build large-scale, error-corrected quantum computing for otherwise unsolvable problems. They build full-stack quantum computers using superconducting transmon qubits, and their research spans from the fundamental physics to applications and algorithms that will allow quantum computers to have real-world impact.

About King's College London:

King's College London is amongst the top 40 universities in the world and 5th best in the UK (QS World University Rankings 2026), and one of England's oldest and most prestigious universities. With an outstanding reputation for world-class teaching and cutting-edge research, King's maintained its sixth position for 'research power' in the UK (2021 Research Excellence Framework).

King's has more than 33,000 students (including more than 12,800 postgraduates) from some 150 countries worldwide, and 8,500 staff.

For nearly 200 years, King's students and staff have used their knowledge and insight to make a positive impact on people, society and the planet. Focused on delivering positive change at home in London, across the UK and around the world, King's is building on its history of addressing the world's most urgent challenges head-on to accelerate progress, make discoveries and pioneer innovation. Visit the website to find out more about Vision 2029, which sets out bold ambitions for the future of King's as we look towards our 200th anniversary.

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