UK quantum software startup Phasecraft joins IBM Quantum Network

Phasecraft to test cutting-edge quantum software algorithms on IBM Quantum systems and increase collaboration with industry partners

London, 26th March 2021 - Today, UK-based quantum software company Phasecraft announced that it is the latest UK startup member of the IBM Quantum Network, a global community of more than 140 Fortune 500 companies, startups, academic institutions and research labs working to advance quantum computing and explore practical applications. Together, members of the Network and IBM Quantum teams are researching and exploring how quantum computing will help a variety of industries and disciplines, including finance, energy, chemistry, materials science, optimisation and machine learning, among many others.

Phasecraft works with leading quantum hardware providers to develop software algorithms optimised for near-term quantum devices. As a member of the IBM Quantum Network, Phasecraft can access IBM's advanced quantum computers available via the cloud.

Phasecraft founder, Toby Cubitt, commented, "We're at the early days of quantum computing, testing the best applications and capabilities of quantum hardware. By working directly with leading quantum hardware providers like IBM, Phasecraft aims to bring forth the timeline for quantum advantage - where quantum computers solve practical problems that are too complex for classical computing systems."

Dr. Anthony Annunziata, Director of the IBM Quantum Network, commented, "IBM Quantum has an ambitious roadmap to commercialise quantum computing. Getting there will require a growing ecosystem of private companies, academia and government to spark collaboration, develop technology and advance research – all with the goal of establishing and maintaining a Quantum Industry. We are excited to welcome Phasecraft to the IBM Quantum Network to find new ways to leverage and test IBM Quantum hardware and software for meaningful industry applications."

In addition to joining the IBM Quantum Network, Phasecraft works with quantum computing hardware providers including Google and Rigetti, and industry partners such as Johnson Matthey. Phasecraft is also leading the UK consortium's software development component to build the first large-scale commercial quantum computer in the UK in Abingdon in Oxfordshire. Phasecraft also recently announced it had raised the largest seed funding round for a UK quantum computing startup.

Recent Phasecraft research has focused on techniques to develop lean algorithms that maximise the ability of today's near-term quantum hardware to simulate physical materials beyond the capabilities of classical computing, improving the state-of-the-art by orders of magnitude.

Phasecraft founder, Ashley Montanaro, commented, "Quantum software for today's quantum hardware needs to account for additional challenges such as noise and error correction. Considering near-term quantum hardware capabilities, Phasecraft has already made considerable progress lowering the minimum threshold of circuit size and number of qubits needed for running useful quantum applications - like modelling the behaviour of strongly-correlated electronic systems. With Phasecraft's collaboration with quantum hardware partners like IBM, we can work directly with quantum computing hardware to come up with novel and creative approaches to maximise near-term performance."

About Phasecraft

Phasecraft is taking quantum theory from research to reality, faster. Phasecraft was founded in 2019 by Toby Cubitt, Ashley Montanaro and John Morton, expert quantum scientists who have spent decades leading top research teams at UCL and University of Bristol. Phasecraft collaborates with leading quantum hardware companies, including Google, IBM and Rigetti, academic and industry leaders, to develop high-efficiency software that evolves quantum computing from experimental demonstrations to useful applications. Learn more: www.phasecraft.io

About IBM Quantum

IBM Quantum is an industry-first initiative to build universal quantum systems for business and science applications. For more information about IBM's quantum computing efforts, please visit www.ibm.com/ibmq.

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