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Rainer Blatt Awarded the Bell Prize

Experimental physicist Rainer Blatt from the Institute for Quantum Optics and Quantum Information is awarded the international John Stewart Bell Prize for his pioneering research in quantum physics. The award ceremony will take place at the University of Toronto on 20 August 2015.

Quantum mechanics theory has revolutionized physics. Researchers and the general public alike are fascinated by the sometimes bizarre laws that govern photons, electrons and atoms. For several decades now, researchers have made steady progress in controlling the laws of the quantum world and using them for potential applications. The focal point is the creation of a quantum computer, which could solve specific problems considerably faster than a conventional super computer. For 20 years experimental physicist Rainer Blatt has worked at the University of Innsbruck focusing his work on creating the fundamental building blocks for developing quantum technologies. Together with his team he has experimentally realized the first quantum computer and has executed simple quantum computations. In coming years he wants to realize first simulations of many-body problems such as molecule structures, a task that super computers are still failing at. For his pioneering research on quantum information processing with trapped ions, in particular, for the recent demonstrations of analog and digital quantum simulators and quantum logic gates on a topologically encoded qubit Rainer Blatt has now been awarded the international John Stewart Bell Prize in Canada. "I am very excited about this international recognition of our work and it is an additional motivation to press on with our research," says awardee Rainer Blatt. "Receiving this prize also underlines the international significance and esteem of physics research in Innsbruck."

Highly awarded researcher

The milestones of Rainer Blatt's research work are the first teleportation of atoms, the realization of the first quantum byte and the to-date biggest realized quantum register comprising 14 quantum bits.

Rainer Blatt is Professor of Experimental Physics at the University of Innsbruck and Director of the Institute for Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Sciences in Innsbruck, Austria. For his research achievements he has been awarded numerous prestigious prizes, for example the Stern-Gerlach Medal awarded by the German Physical Society, the Humboldt Research Award and the Carl-Zeiss Research Prize.

Award ceremony in Canada

Northern Irish physicist John Stewart Bell is known best as the originator of Bell's theorem, which is seen as the fundamental test to prove the validity of quantum mechanics theory. The prize named after him was established in 2009 and is awarded every odd-numbered year for significant contributions in quantum physics. The award ceremony will take place during this year's conference on Quantum Information and Quantum Control at the Fields Institute in Toronto, Canada.

More about the conference: <http://www.fields.utoronto.ca/programs/scientific/15-16/CQIQCVI/index.html>

More about the prize: http://cqiqc.physics.utoronto.ca/bell_prize/home.html

Photo: <http://iqoqi.at/de/das-iqoqi/medien-presse>

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