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Peter Zoller Awarded the Bell Prize

The Innsbruck quantum physicist Peter Zoller and Ignacio Cirac from the Max Planck Institute for Quantum Optics in Garching have been awarded the John Stewart Bell Prize for their outstanding achievements in the field of quantum information processing. The award ceremony will take place today at the University of Toronto in Canada.

The fourth biennial John Stewart Bell Prize for Research on Fundamental Issues in Quantum Mechanics and Their Applications is awarded to Ignacio Cirac (Max Planck Institute for Quantum Optics) and Peter Zoller (University of Innsbruck & IQOQI) for their recent groundbreaking proposals in quantum optics and atomic physics on how to engineer quantum systems to carry out novel information processing tasks, in particular for extending the applications of quantum simulators to lattice gauge theories, showing how long range entanglement can be estimated via statistical measurements, and using Projected Entangled Pair States for the theoretical study of quantum many body systems.

The second quantum revolution, in which we aim to engineer quantum systems to do novel information processing tasks, is fully under way. “Ignacio Cirac and Peter Zoller are the driving force behind this tremendous progress. Their current work sets the agenda for the development of the whole field for years to come. Their elegant and original ideas open up whole new areas which will be investigated experimentally for many years, even decades”, the jury concluded. “The ongoing second quantum revolution would be unfolding much slower, both now and in the foreseeable future, without their contributions.”

Distinguished many times

Peter Zoller is Professor of Theoretical Physics at the University of Innsbruck and Scientific Director at the Institute of Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Sciences in Innsbruck. He has already received numerous international awards for his achievements,

including the Max Planck Medal of the German Physical Society, the Wolf Prize for Physics, the Dirac Medal and the Benjamin Franklin Medal for Physics.

Award ceremony in Canada

The Northern Irish physicist John Stewart Bell is best known 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 two years since 2009 by the Centre for Quantum Information and Quantum Control at the University of Toronto for major advances in quantum physics. Among the previous winners were the Austrian quantum physicists Rainer Blatt (2015) and Anton Zeilinger (2017). 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/activities/19-20/CQIQC-VIII>

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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