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Press Release

Dr. Christian Groß receives Heinz Maier-Leibnitz Prize



Dr. Christian Groß (*Photo: MPQ*), a young research scientist working in the Quantum Many-Body Systems Division of Professor Immanuel Bloch at the Max Planck Institute of Quantum Optics (Garching near Munich), has been selected by the Deutsche Forschungsgemeinschaft DFG as one of the recipients of the Heinz Maier-Leibnitz Prize 2017. The prize will be given to him at a public event in Berlin on 3rd May 2017. Dr. Groß has won the award endowed with prize money of 20.000 Euro for his outstanding contributions to the field of ultracold quantum matter.

The election committee appointed by the Federal Ministry of Education and Research and the President of the DFG donates this prize annually to 10 young scientists who have already established an independent scientific career since having gained their doctorates. The prize is intended to encourage the winners in pursuing their scientific careers.

Christian Groß studied physics at the Johannes-Gutenberg-Universität Mainz where he received his diploma in 2006. He then went to the Ruprecht-Karls-Universität Heidelberg where he finished his doctoral thesis “Spin squeezing and non-linear atom interferometry with Bose-Einstein-Condensates” in 2010. During his first year as a postdoc he continued to work in the research group “Synthetic Quantum Systems” of Prof. Markus Oberthaler who had been supervisor of his doctoral thesis. In 2011 his research work was honoured with the PhD thesis prize of the Section “Atoms, Molecules, Quantum Optics and Plasmas” of the German Physical Society (DPG) as well as with the Ruprecht-Karls-Preis of the University of Heidelberg. Since 2011 he has been project leader in the Quantum Many-Body Systems Division of Prof. Immanuel Bloch at the Max Planck Institute of Quantum Optics (MPQ).

In 2015 Christian Groß was winner of an ERC Staring Grant which enabled him to establish his research group “Rydberg dressed quantum many-body systems” in June 2016.

Dr. Groß studies the behaviour of ultracold quantum systems under a variety of aspects. Using bosonic and fermionic atoms in optical lattices he simulates different properties of condensed matter, among others the behaviour of quantum systems far away from equilibrium, or the emergence of magnetic correlations. Many of these investigations rely heavily on the use of the so-called quantum gas microscope – a tool which reveals the position of individual atoms on their particular lattice site.

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