PRESS-RELEASE

Max Planck Institute of Quantum Optics

and

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Prof. Reinhard Kienberger gets EPS Prize for Research in Laser Science and Applications

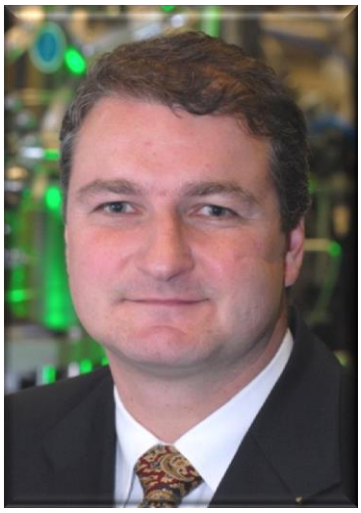

Photo: Thorsten Naeser

The Austrian scientist Professor Dr. Reinhard Kienberger, Chair of Laser and X-Ray Physics at the Technische Universität München and Max Planck Fellow at MPQ, will receive the "*2016 Prize for Research in Laser Science and Applications*" from the European Physical Society (EPS). The European Physical Society is an association whose members include 42 National Physical Societies in Europe, representing more than a hundred thousand physicists. The EPS prize for Research in Laser Science and Applications is one of the most important scientific awards in the field of laser physics in Europe. The prize is given every two years through the Quantum Electronics & Optics Division (QEOD) of the EPS for recent achievements in laser science. Prof. Reinhard Kienberger has been elected for "his seminal contributions to establishing the basic techniques for attosecond science with laser-based as well as accelerator-based sources". The award ceremony will take place on 25 August 2016 on the occasion of the 7th EPS-QEOD Europhoton Conference in Vienna.

Professor Dr. Reinhard Kienberger comes from Saalfelden in Austria. In 2002 he got his doctoral degree in the group of Prof. Ferenc Krausz, then at the Technical University of Vienna, on the subject "Subfemtosecond XUV Pulse Generation and Measurement". There he was the first ever to produce light pulses shorter than one femtosecond (a millionth of a billionth of a second). In 2004 he received the APART grant (Austrian Programme for Advanced Research and Technology) of the Austrian Academy of Sciences, which enabled him to spend 10 months at the Stanford Linear Accelerator Center (USA) in the same year. On his return from the USA in 2005 he became a research scientist in the "Attosecond Division" of Prof. Ferenc Krausz at the MPQ. In 2006 he received the Sofja Kowalevskaja Prize by the Alexander von Humboldt Foundation and set up the independent research group "Attosecond Dynamics". In 2007 he received the "Starting Grant" of the European Research Council, and in September 2009 he became appointed professor at the Technische Universität München. In November 2010 he was presented with the prestigious ICO Prize of the International Commission for Optics. As a Max Planck Fellow of 2014 and part of the Laboratory for Attosecond Physics (leader Prof. Krausz) he maintains strong bonds with the MPQ.

By assuming the Chair of Laser and X-Ray Physics at the Technische Universität München in 2013 Prof. Kienberger added to the field of ultrafast spectroscopy the field of attosecond dynamics. One of the main goals of this research is to capture snapshots of the inner life of atoms. By this scientists expect to gain insights into the actual course of chemical reactions, the behaviour of electrons in solid materials, and the interaction between light and matter. "An attosecond is a billionth of a billionth of a second, an extremely short period of time," Kienberger says. "This is the time scale on which the motion of electrons in an atom takes place. With extremely short light pulses, we can

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make this motion visible and investigate it." New discoveries made through this approach could find application in chemistry, molecular biology, nanotechnology, and treatment of tumours.

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