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Press Release

Professor Immanuel Bloch receives renowned Prize of the European Physical Society (EPS).



Foto: Philip Morris Stiftung

Professor Immanuel Bloch, Director at the Max Planck Institute of Quantum Optics and Professor for experimental physics at the Ludwig-Maximilians-Universität Munich, has been elected by the EPS for the “2011 Prize for Fundamental Aspects of Quantum Electronics and Optics”. The award is given to him for his “pioneering work on exploring quantum many-body systems using ultracold quantum gases for quantum simulation and quantum information applications.” The European Physical Society, founded in 1968, represents the community of European physicists, playing an important role in their scientific and policy activities. The Quantum Electronics and Optics Division (QEOD) of the EPS recognizes with this biannual award “the very highest level of achievements in fundamental research in optical physics.”

Immanuel Bloch began his studies in physics at the Friedrich-Wilhelms-Universität in Bonn where he received his diploma in 1996. After having spent one year of research at Stanford University he joined the Laser Spectroscopy Division of Professor Theodor W. Hänsch (MPQ and LMU). In 2000 he obtained his doctoral degree from LMU. He continued his research in the Hänsch group until he became appointed as Professor at the Johannes Gutenberg-Universität Mainz. Since 2008 he has been Director at the MPQ and leader of the Quantum Many Body Systems Division and since 2009 chair of quantum optics at the Ludwig-Maximilians-Universität.

His main research topic is the investigation of ultracold quantum gases in artificial crystals of light, so-called optical lattices. These systems can be used e.g. as models for solid states helping to gain a deeper understanding of conductivity or superconductivity. They are as well suited for storing and processing quantum information. One of his recent achievements is the experimental demonstration of perfectly controlled manipulation and addressing of single atoms in such a lattice, putting the atoms into any possible pattern.

Immanuel Bloch has been awarded with the Philip Morris Research prize twice (in 2000 together with Prof. Hänsch and in 2007). In 2002 he has received the Otto Hahn Medal of the Max Planck Society, in 2005 the Gottfried-Wilhelm-Leibniz prize of the German Science Foundation (DFG), the German National Merit Medal and the International Commission of Optics Prize. The EPS award will be presented in a special plenary ceremony on Tuesday May 24th 2011 during the Conference on Lasers and Electro-Optics (CLEO) Europe, in Munich.

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