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Institut für Quantenoptik und Quanteninformation
Österreichische Akademie der Wissenschaften

Otto Hittmair-Platz 1 / Technikerstraße 21a
6020 Innsbruck, Austria, Europe
Tel +43 512 507 4701
Fax +43 512 507 9815
iqoqi-ibk@oeaw.ac.at
www.iqoqi.at

Geschäftsführender Direktor
Univ.Prof. Dr. Rainer BLATT
rainer.blatt@oeaw.ac.at

Dirac Medal for Peter Zoller

**New award for leading thinker
in quantum physics**

On Tuesday the International Centre for Theoretical Physics in Trieste awarded this year's Dirac Medal to professor Peter Zoller. It is presented annually on August 8 in honour of Paul A. M. Dirac's birthday in recognition of notable contributions to physics.

Innsbruck physicist Peter Zoller received the medal for his "innovative and productive work in the field of nuclear physics". The jury of eminent experts particularly praised Zoller's inspiring suggestions for realizing a quantum computer with trapped atoms and for implementing the Bose-Hubbard model in ultracold gasses. Former recipients of the medal include later Physics Nobel Prize winners Frank Wilczek, David Gross and Martinus J. G. Veltman. Director General of UNESCO, Koichiro Matsuura, and Director General of the IAEA, Mohammed el Baradei, congratulated Peter Zoller.

Trailblazing research attracts numerous awards

Peter Zoller has a chair at the University of Innsbruck and is one of the scientific directors of the Institute for Quantum Optics and Quantum Information (IQOQI) at the Austrian Academy of Sciences (ÖAW). His theoretical work is years ahead of its experimental realization and attracts worldwide interest before its eventual realization in the laboratory. Zoller, born 1952 in Innsbruck, studied physics there, got his doctorate in 1977 and his *venia legendi* in 1980. He has been guest professor in numerous universities of world renown and for several years had a professorship at the Joint Institute for Laboratory Astrophysics (JILA) in Boulder before taking up a chair at the University of Innsbruck in 1994. In 1998 he received the Wittgenstein Prize, the highest Austrian accolade for scientists. In the same year he was awarded the Schrödinger Prize and the Max Born Prize. In 2005 his trailblazing work was rewarded with the Max Planck Medal of the Deutsche Physikalische Gesellschaft and with the UNESCO's Niels Bohr Gold Medal.

Co-founder of quantum physics

British physicist Paul A. M. Dirac (1902 - 1984) was a founding father of quantum physics. In 1928 he formulated what would later become known as the Dirac equation, a relativistic wave equation for



describing the electron. He based this equation on the special theory of relativity and on the work of Wolfgang Pauli on the exclusion principle. It enabled Dirac to predict the existence of the intrinsic angular momentum and of the positron. In 1933 Dirac received the Nobel Prize for Physics jointly with Austrian physicist Erwin Schrödinger. The medal named after Dirac has been awarded annually since 1985 by the International Centre for Theoretical Physics (ICTP) in Trieste to one or more scientists and includes 5,000 US Dollars prize money.

You can find pictures of Peter Zoller in our media service on: <http://www.iqoqi.at/media/download/>

Contact:

Dr. Christian Flatz

Public Relations

Institute for Quantum Optics and Quantum

Information

Österreichische Akademie der Wissenschaften

Technikerstraße 21a, A-6020 Innsbruck,

Tel. +43 650 5777122

E-Mail: pr-iqoqi@oeaw.ac.at