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Alain Aspect awarded the 2013 Niels Bohr Medal

Alain Aspect, Augustin Fresnel Professor at the Institut d'Optique Graduate School, Professor at the Ecole Polytechnique and CNRS senior researcher emeritus, has been awarded the Niels Bohr Medal by the Danish Academy of Engineers, in association with the Niels Bohr Institute and the Royal Danish Society of Sciences and Letters. The medal will be presented in Copenhagen on 7 October 2013, on the occasion of the celebration of the hundredth anniversary of the publication of Niels Bohr's atomic model. It honors his major contributions to the field of quantum optics and atomic physics.

The prestigious international distinction is awarded to Alain Aspect for his work on Bell's inequalities tests, which made a major contribution to the debate between Niels Bohr and Albert Einstein and demonstrated the phenomenon of quantum entanglement, which is now at the root of quantum information research. The award also pays tribute to a professor who, in his lectures and in the laboratory, has passed on his approach to physics to generations of students and young scientists from universities and higher education establishments in France, Europe, the US and Asia. The Niels Bohr Medal will be presented at the Carlsberg Academy in Copenhagen, Niels Bohr's former residence, by Her Majesty the Queen of Denmark.

In 1974, Alain Aspect began his experiments on pairs of entangled photons in order to test Bell's inequalities. The research, carried out at the Laboratoire Charles Fabry (Institut d'Optique Graduate School/CNRS), is described in his 1983 doctoral thesis and in three papers published in *Physical Review Letters*.

Other examples of Aspect's pioneering work include his research on single photon sources with Philippe Grangier at the Laboratoire Charles Fabry (1983-85), laser cooling of atoms with Claude Cohen-Tannoudji at the Laboratoire Kastler Brossel (ENS, CNRS, UPMC, Collège de France) from 1985 to 1992, as well as current research by his atomic optics group at the Laboratoire Charles Fabry on quantum atomic optics, Bose-Einstein condensates, atom lasers and quantum simulators.

Awarded the CNRS Gold Medal in 2005, Alain Aspect has received many other distinctions, including the Holweck Prize (Société Française de Physique and Institute of Physics) in 1991, the Quantum Optics Senior Prize (European Physical Society) in 2009, the Wolf Prize in Physics in 2010, the Herbert Walther Award (Deutsche Physikalische Gesellschaft and Optical Society of America) in 2011, and the Albert Einstein Medal in 2012.

In 2013 alone, he has already received another three prestigious distinctions: the highest award of the Optical Society of America (Frederic Ives Medal / Jarus Quinn Prize) in March 2013; the Tommasoni Prize in June 2013; and the Balzan Prize, announced on September, 9 in Milan.



Alain Aspect is a member of the French Academy of Sciences, the French Academy of Technologies, the National Academy of Sciences (United States) and the Austrian Academy of Sciences. He is also Doctor Honoris Causa of several universities in various countries.

The story behind the Niels Bohr Medal

The Niels Bohr Medal is an international award that aims to honor a scientist or engineer, initially for their contribution to the peaceful use of nuclear energy. The medal, which was instituted by the Danish Academy of Engineers in 1955, has been awarded ten times in the period between 1955 and 1982, mainly for fundamental research in atomic physics.

To find out more about the Niels Bohr Medal:

http://bohr2013.nbi.ku.dk/english/events_exhibitions/niels_bohr_medaljen/

About Institut d'Optique Graduate School :

The Institut d'Optique Graduate School, also known as « SupOptique », is a French Grande École in engineering. Founded in 1920, it is one of the major players in higher education and research in optics and photonics in France. Its international reputation is based on the quality of the training provided, on the major scientific contributions of its research and on its close links with industry.

Optics and photonics are key enabling technologies that affect society in many different ways, both as regards the general public (media, telecommunications, health ...) and cutting-edge research (physics, chemistry, space, aerospace, biosciences, environment ...).

About Laboratoire Charles Fabry

The Laboratoire Charles Fabry is a joint laboratory of CNRS and the Institut d'Optique Graduate School. A historical pillar of research at the Institute, it covers a wide range of research in optics and photonics as well as their applications: lasers, biophotonics, nonlinear materials, nanophotonics and electromagnetism, quantum optics, atom optics and optical systems and components.

To find out more about the Laboratoire Charles Fabry: <http://www.lcf.institutoptique.fr>

Alain Aspect's web page: <http://www.lcf.institutoptique.fr/Alain-Aspect-homepage>



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