

Ars Electronica Center Linz

Hot on the Trail of Quanta

Thursday, August 25, 2011 / 8-9 PM / Deep Space

(Linz, August 21, 2011) The quantum computer of the future will need considerably fewer calculating steps to solve problems than a conventional computer does. What will make this possible are quantum mechanical phenomena such as contingency, superposition and entanglement that can be used to pave the way to a completely new information technology. And quantum physics also opens up another fascinating new field: quantum cryptography. Here, entangled particles are sent to two stations far distant from one another. Due to their quantum mechanical correlation, a secret key can be generated between the two stations. Whereas the quantum computer is still in its infancy, there already exists a quantum cryptography industry. In the near future, this could even be performed with the help of satellites. In Deep Space at the Ars Electronica Center, Dr. Johannes Kofler of the Austrian Academy of Sciences' Institute of Quantum Optics and Quantum Information will give an account of the strange world of quanta and developments in the relatively new field of quantum information.

Deep Space

Deep Space in the Ars Electronica Center features projection infrastructure that is absolutely unique worldwide. Equipped with eight 1080p HD- and Active Stereo-capable Barco Galaxy NH12 projectors, Deep Space awes visitors with crystal-clear, 16x9-meter visuals projected onto the wall and floor. During the festival, the accent will be on science in Deep Space. Top scientists will be able to present such complex topics as quantum physics and astronomy in vivid, fascinating ways.

ORIGIN – how it all begins

Ars Electronica 2011 will be dedicated to the fascinating world of leading-edge research on the basic principles of the cosmos. This year's festival is being produced in collaboration with CERN, the European Organization for Nuclear Research. With the search for the origin of all matter as its point of departure, Ars Electronica will be scrutinizing the CERN Model and the framework conditions necessary for new things to take shape. Art and science have a great deal in common here—no longer only variant manifestations of the human longing for insight, they are guarantors and indicators of a society's openness and its capacity to innovate and develop.

Ars Electronica Festival 2011: <http://new.aec.at/origin/en/category/blog/>

Ars Electronica Linz: <http://new.aec.at/news/en>

CERN: <http://public.web.cern.ch/public/>

Austrian Academy of Sciences: <http://www.oeaw.ac.at/english/>

Institute of High Energy Physics: <http://iqoqi.at/>

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