

Data Security: The AXA Research Fund Awards EUR 1.7 million to ICFO of Barcelona for a Chair on Quantum Cryptography

Madrid, 14th December 2015 – The AXA Research Fund has awarded to ICFO-The Institute of Photonic Sciences a Chair, which is both permanent and pioneering on a global scale, for a quantum information technology project that will focus on risks associated with data privacy. The Chair has a budget of EUR 1.7 million, bringing AXA's support to science in Spain to approximately EUR 10 million.

With the rise and acceleration of data usage, transmission and mining in a growing number of economic sectors, data security has become an issue of the utmost importance for governments, the private sector as well as civil society. Several recent cases revealed weaknesses in security protocols used to transmit data over the networks, but also in the trust we place in our service providers.

ICFO-The Institute of Photonic Sciences is the most recent recipient of a permanent AXA chair in Spain. The chair holder, who will lead this project for the first five years, is ICREA (Catalan Institution for Research and Advanced Studies) Professor at ICFO Antonio Acín. A pioneer in the field of quantum cryptography, leader of an ICFO research group and winner of three prestigious European Research Council grants, Professor Acín studies quantum cryptography protocols that ensure the non-violability of data communications.

Encryption Codes

Through the AXA Chair, ICFO will conduct research focused on developing and implementing encryption systems based on quantum devices, with the aim of 100% secure data communications. Based on the use of quantum particles, these devices are able to code information in a way that is impossible to hack. As Professor Acín states, "To break these protocols would be to go against the laws of quantum physics, which is something that has never been achieved."

Jean-Paul Rignault, CEO of AXA Spain and the AXA Research Fund's representative in Spain, declared: "We are convinced that better knowledge and understanding of the risks facing societies is essential for their development; hence our commitment to providing the academic world with the means and freedom they need to conduct research in these areas. Supporting them is our responsibility and a unique opportunity to enhance general knowledge and contribute to better protecting the general public."

For ICFO's founder and director, Professor Lluís Torner, "The AXA chair is excellent news because it will allow us to provide new and important training opportunities for young scientists in a research area with great potential. It will also allow us to communicate the results of this research throughout society."

As the first holder of the chair, Antonio Acín added, "Security, in today's age of reliance on information, is of vital importance to everyone. This chair will allow us to delve into our research with the aim of obtaining high-impact, innovative results for the future of society."

Professor Acín joins the AXA Research Fund's scientific community in Spain, which already includes internationally recognized researchers such as [Mariano Barbacid](#), [Joan Esteban](#), [Albert Marcet](#), [Ben Lehner](#) and [David Rios](#).

EUR 200 Million Dedicated to Research

The AXA Research Fund was created in 2007 to boost scientific progress and discoveries that contribute to understanding and better preparing for environmental, life and socio-economic risks. With a commitment of EUR 200 million until 2018, the Fund supports 449 projects led by researchers of 50 nationalities, working in 230 universities in 32 countries.

The AXA Research Fund also helps scientists share their knowledge with a wider audience, in order to inform decision-making and actively promote public knowledge about the risks that threaten our societies.

More information: axa-research.org gallery.axa-research.org @AXAResearchFund

About ICFO

ICFO-The Institute of Photonic Sciences is a center of research excellence devoted to the science and technologies of light with a triple mission: to conduct frontier research, train the next generation of scientists, and provide knowledge and technology transfer.

Research at ICFO targets the forefront of science and technology based on light with programs directed at applications in Health, Renewable Energies, Information Technologies, Security and Industrial processes, among others. The institute hosts 300 professionals based in a dedicated building situated in the Mediterranean Technology Park in the metropolitan area of Barcelona.

ICFO participates in a large number of projects and international networks of excellence and is host to the NEST program financed by Fundación Privada Cellex Barcelona. ICFO is a member of the Severo Ochoa Excellence program and a member of The Barcelona Institute of Science and Technology.

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