



**European Research Council**

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**Highlight:**

**ERC grantee Peter Zoller receives the prestigious Wolf Prize in physics**

5 May 2013

**Austrian researcher Peter Zoller, funded by the European Research Council (ERC), and Spanish physicist Juan Ignacio Cirac are awarded today the renowned Wolf Prize in physics. The \$100,000 prize (approximately €77,000) is presented by Israeli President Shimon Peres at a ceremony at Israel's Parliament in Jerusalem. Professor Zoller is the fifth ERC grantee to receive the Wolf Prize.**

*"It is a great honour and privilege to receive this prize together with Juan Ignacio Cirac. This award is recognition of a long and fruitful scientific collaboration", says ERC grantee Zoller.*

Peter Zoller and Juan Ignacio Cirac are rewarded by the Wolf Foundation "for their groundbreaking theoretical contributions to quantum information processing, quantum optics and the physics of quantum gases". According to the Foundation, "their quantum computer would be able to solve problems currently beyond the abilities of classical computers, such as the factorization of large numbers, which currently requires exponentially large computing time".

Peter Zoller holds an ERC Synergy Grant, which he received in December 2012, together with Ehud Altman (Israel), Immanuel Bloch (Germany), and Jean Dalibard (France) for their 'Ultracold Quantum Matter' project. The €9.8 million Synergy Grant will help them to establish an excellence network on quantum mechanics and to create dedicated laser laboratories at the Max Planck Institute of Quantum Optics (Germany) and the Collège de France. Their project holds the promise of revolutionising materials and devices with yet unthinkable capabilities.

*"The ERC Synergy Grant offers entirely new possibilities for intense cooperation. It is exciting for me to work in a team at the interface between novel and fundamental theoretical concepts and ideas, and to participate in the experimental efforts by leading laboratories to explore new quantum phenomena", explains Professor Zoller.*

**Note to the editors**

**Professor Peter Zoller**

Peter Zoller (Austria, 1952) is Professor of Physics at the University of Innsbruck and Research Director of the Institute for Quantum Optics and Quantum Information of the Austrian Academy of Sciences. As a theorist recognised worldwide, he has published over 400 publications during his career. Professor Zoller is also *ad hoc* editor for PNAS since 2009 and a member of the editorial boards of both *Annals of Physics* and *Springer Quantum Information Processing*.

[CV of Peter Zoller](#)



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### 'Ultracold Quantum Matter' project

This project addresses one of the central problems of modern physics, which is to fully understand quantum mechanics on the microscopic scale. With this project, the researchers aim to control matter at the quantum level using ultracold atomic and molecular quantum gases. More concretely, some of their objectives are to produce, understand and classify novel states of matter and engineer them to revolutionize the way we hand and process information.

[Project on Cordis website](#)

### ERC Synergy Grant

The ERC Synergy Grant is a pilot scheme, intended to enable small groups of Principal Investigators and their teams to bring together complementary skills, knowledge, and resources in new ways, in order to jointly address research problems. The aim is to promote substantial advances at the frontiers of knowledge, and to encourage new productive lines of enquiry and new methods and techniques, including unconventional approaches and multidisciplinary investigations.

[ERC website](#)

[ERC press release: ERC Synergy Grants fund 11 exceptional projects](#) (December 2012)

### Wolf Prize

In 2013, the five \$100,000 (ca. €77,000) prizes are shared by eight winners from four countries: Austria, Germany, Portugal and United States. Prizes are awarded in five fields: physics, mathematics, agriculture, chemistry for sciences and architecture for the arts.

[Wolf Foundation](#) ([information on 2013 laureates](#))

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