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## Austrian Physicists at the Top

**The Alpine republic is up there with  
the best physics nations in the world.**

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**Institut für Quantenoptik und Quanteninformation**  
Österreichische Akademie der Wissenschaften

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**In a ranking by Thomson Scientific, Austrian physicists appear for the first time among the top 20 most cited scientists. A major contribution to this place of honour comes from the researchers at the Institute for Quantum Optics and Quantum Information (IQOQI) of the Austrian Academy of Sciences (ÖAW) and the Universities of Innsbruck and Vienna.**

The world of physics is still dominated by US science. At 2.7 million citations of 218,000 publications, the US are well in the lead of the most recent ranking of "Science Watch", a news service of Thomson Scientific. The roughly 9,000 publications written by Austrian physicists were cited more than 106,000 times in total. This catapults Austria for the first time into the top 20 nations worldwide. Switzerland leads in citations per publication, with Swiss research publications being cited by other scientists 13.7 times on average. In this category Austria occupies an excellent fourth place after the US and the Netherlands. Each Austrian publication was cited 11.6 times on average. For the study citations were collected from the last eleven years, 1997 to 2007. In a similar ranking three years ago, Austria did not make it into the top 20 nations.

### **Onwards and upwards with quantum physics**

The research done within Austrian quantum physics has made a major contribution to the good ranking of the country's physics in this international comparison. The five scientific directors of the Institute for Quantum Optics and Quantum Information (IQOQI), professors Rainer Blatt, Hans J. Briegel, Rudolf Grimm, Anton Zeilinger and Peter Zoller, account for well over a third (or nearly 40,000) of all Austrian citations. These citation figures relate to over 800 publications by the exceptional scientists in this country. Two works attracted particular attention in the international scientific community: in 1995, Peter Zoller and Ignacio Cirac jointly published a groundbreaking proposal for building a quantum computer with trapped ions. Two years later, Anton Zeilinger in Innsbruck was able to demonstrate for the first time an instance of teleportation with light particles. Both publications have been quoted by other scientists over 1,200 times since and are still considered trailblazing works. The successes of recent years and the steep upward curve of citations of Austrian scientists bode well



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for Austria's chances of improving its standing further. „In Austria we have succeeded in bundling resources and expertise and within a decade we have built a powerful community of physicists who can hold their own in international comparisons,“ said Rainer Blatt, director of the Institute for Quantum Optics and Quantum Information. „Close cooperation between the various institutions, universities, the Academy of Sciences and the Science Fund paved the way for this achievement.“

Links to the ranking: <http://sciencewatch.com/dr/cou/2008/08mar20PHY/>

You can find a photograph of professor Blatt on: <http://www.iqoqi.at/media/download/>

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