

What the jury said:

"Professor Beenakker is a highly respected and influential theoretical physicist whose groundbreaking research has seen him earn an outstanding international reputation. This award is thoroughly deserved and goes to a man who, at the age of 46, has already produced a scientific oeuvre which places him at the very top tier of modern theoretical physicists."

Boldly going...

An interview with the winner of this year's Akzo Nobel Science Award, Professor Carlo Beenakker, a theoretical physicist who is helping to shape the future of nanoscience.

If there's one person who can bridge the gap between the world of science and day-to-day life then it's this year's Akzo Nobel Science Award winner, Carlo Beenakker, a professor of physics at Leiden University in the Netherlands. The way he speaks about his pioneering work in the field of nanoscience makes even a layman become interested.

From a young age, Professor Beenakker knew what he wanted to do in life. Now, at the age of 46, and some 250 publications later, he is still as passionate about his work as in the beginning. "I feel privileged to do research that will still be of value a hundred years from now," he says.

Over the course of two decades, Beenakker has shown how to explain and predict electrical conduction in nanostructures, with the aim of developing new concepts and possibilities for computers of the future. His theoretical nanoscience group addresses fundamental physical problems that occur when a macroscopic object is miniaturized to the nanometer scale.

The goal of Beenakker and his team is not to design better and faster computers, but to invent a concept for a quantum computer which works in a completely different way from those we use today. "Even though we won't live long enough to see technological developments far into the future, everyone understands that more things are possible," he continues with a twinkle in his eye. "That fascinates me. There is still so much potency in science. Especially in the world of nanoscience, which is still quite new and involves predicting almost in a way like science fiction." This is the professor's way of getting a complex message across.

At seminars in front of a young audience or an audience other than fellow scientists, he sometimes refers to science fiction series, such as Star Trek, to popularize the topic. He once lectured at a three-day pop festival in the Netherlands, called Lowlands, where he was cheered on stage like a rock star by around a thousand young people who were asking him questions such as "Can Scotty really beam people up?" According to Beenakker, this successful experiment was one of the highlights of his

career. "Obviously Star Trek has got nothing to do with my research, but there's a danger that the gap between science and what people know of science becomes too wide. These type of events help to narrow that gap."

RECOGNITION

Beenakker tries to stay away from politics as much as possible, but recognizes the potential of the Akzo Nobel Science Award and hopes it will help to put nanoscience more on the map of decision makers. "In nanoscience, we don't occupy ourselves with things that will be on the market in five years time—our quantum computer might take another hundred years, but that doesn't mean it isn't necessary." Beenakker, therefore, sees the award—which carries a EUR 50,000 prize—as recognition for the importance of nanoscience.

"My 'core business' is looking for new discoveries, that's what I get my satisfaction from. Like a painter who needs to sell his work for money, but who does it because he likes doing it. I'm not in this field to win prizes, but I'm very glad that with this award Akzo Nobel is saying they also like what I do."

Other than starring in an episode of Star Trek, Beenakker doesn't have the desire to be anything else than a physicist. He loves to be ahead of the competition in his field. The first thing he does in the morning is to check the recent list of publications on the internet to see what his fellow physicists have come up with. "It sometimes happens that I've been beaten to the punch. That's how it goes, you win some, you lose some. But in science, being the first is very important. Just like when solving a puzzle, you want to be the first to crack it."

While discussing the appeal of science, Beenakker comes up with an idea for a new TV show which entails a group of scientists and a group of builders having to survive on a deserted island. "Which group would perform best?" he ponders, visibly excited by the thought of being one of the competitors. This is what typifies Beenakker—a brilliant scientist with a contagious enthusiasm. ■

