

A portrait of the 2017 MWP laureate

Description

Perfectionist with a sense of humour

Ronald R. Sederoff became a scientist when he received the key to the laboratory, and his dog Boris made him choose forest genetics. All his other decisions are due to his demand for perfection.

His wife was secretly informed about the 2017 Marcus Wallenberg Prize, but Professor Ronald R. Sederoff, North Carolina State University, had no idea he was the laureate.

Friday 17 of March he had agreed to see his friend Jack Saddler, Professor at the University of British Columbia – and also a member of the Selection Committee of the Marcus Wallenberg Prize.

At short notice Ronald R. Sederoff was told he had to go to another meeting, where there was a panic. “You can’t do that,” his wife said.

“I can’t tell you why but you need to dress nicely and meet Jack for breakfast.”

Taken by surprise

Ronald R. Sederoff walked into a little room at a fancy hotel near the airport in Raleigh, USA. There was a group of people around the table. Jack Saddler said congratulations and gave him a big bunch of flowers.

– I was shocked, and I’m still in shock, Ronald R. Sederoff says seven months later when he has arrived in Stockholm to receive his prize.

– I was speechless, which happens very seldom. It is flattering but also embarrassing to receive the Marcus Wallenberg Prize. I think I don’t deserve it.

He had the same feeling in 1995 when he was elected to the National Academy of Sciences, USA, and grumbled about the difficulty of accepting. One of his colleagues said they needed help instead of complaints. “Why don’t you shut up and start working? Then you will feel you deserve it.”

Ronald R. Sederoff with his wife and colleague Professor Heike Sederoff at North Carolina State University, Raleigh, USA.

A key to a new life

Ronald R. Sederoff was awarded the 2017 Marcus Wallenberg Prize for his methods for gene discovery in conifer species and his tree breeding technologies.

However he became a researcher by mere chance.

He was the first person in his family to go to university. As an undergraduate he was preparing for medical school when he was entrusted with the key to a laboratory, where he could come and work

whenever he wanted.

– In a laboratory you can learn something that no one ever learned before. To me it was most compelling. And it changed my life, he tells.

After a year at medical school he took a leave of absence and realized he was more interested in fundamental science than doing something practical like becoming a doctor.

– I'm still on the leave of absence, he says.

Boris changed his ways

He took a Master and PhD in zoology – both in genetics – at the University of California, USA, and stayed for two years as a post doc in Geneva, where he worked on bacteria and viruses.

– It was unusual at the time to have experience of both, he says.

Back in the USA he held different positions at Columbia University, the University of Oregon and finally North Carolina State University, where he started to study the mitochondrial DNA in maize.

He had a standing invitation as a guest professor at a university in England but could not go because of his dog, named Boris.

But Boris died. And his master realized that the position in England was already taken.

– I took it personally, but my colleagues encouraged me to start working on trees. And the best place to go was California, he recalls.

During a sabbatical year in California he worked with a forest genetics group. Many scientists believed that working on tree genes was too hard, but Ronald R. Sederoff and his colleagues saw the potential.

– A system can be difficult, but you don't have to solve all the problems at once. If you find a loose end and follow it you will notice that it opens up, he says.

More useful by and by

Ronald R. Sederoff established in 1988 the Forest Biotechnology Group at NC State University. From the early 1990s he was involved in almost all the early studies on genetic modification of conifer trees, quantitative genetic studies and later even tree genomics.

He also started exploiting new breeding technologies, which made him remember why he once left medical school to focus on fundamental science without any practical implication.

“When you get a little older you become more interested in doing something useful”, one of his professor-friends once said.

He became deeply involved in the restoration of the American Chestnut, which used to be one of the most important trees in the American forests. It was virtually extinguished by a fungal disease.

His group was successful in identification and mapping of genes with a potential to confer resistance to disease and to contribute to future efforts to bring the American chestnut back. The project has been going on for more than 40 years.

In 2004 Ronald R. Sederoff was awarded an Honorary Doctorate from the Swedish University of Agricultural Sciences. Over the years he has traveled back and forth to the departments of forest genetics in both Uppsala and Umeå, but he has very little knowledge of Swedish forests.

– I understand they are very young and have a very little diversity of species, mainly spruce, pine and birch. It can be a problem in the future, if we lose species due to climate change. On the other hand I'm not an ecologist. I have just worked on tree genetics.

Careful chef

Ronald R. Sederoff had planned to retire at 65, but the year came and went. The same thing happened to his plans to leave first at 70 and then at 75.

In February 2017 he finally became a pensioner, 77 years old.

– I have just promised some committees to stay for a period of years, and I am also a member of a committee organized by the US National Research Council to evaluate the potential use of biotechnology to improve forest health, he says.

However he has slowed down. He looks after two rescue dogs, Oscar and Elli, that needed a home. He has also started a new career in the kitchen.

– I like cooking and my family likes what I do. Before I could not even boil water without a recipe. Now I can make a good Spaghetti Bolognese.

He used to be very slow and methodical in the laboratory and yet suffered from the feeling that he was not perfect. The same goes for his cooking.

– You know how it tastes when you eat in a good restaurant. You think you can never match, but it happens that my dish is better. I think that quality is important and if things that could be done well are done poorly it is disappointing. It is my philosophy of life to try to do things well, but I often think I genuinely fail, he admits.

His meticulousness also manifested itself when his wife talked him into selling the Volvo Amazon, which he bought in 1967. He interviewed 100 people to find the right buyer – a man in Boston who restores automobiles and keeps the original owner updated.

– The car was worth ten times what he paid. But the price was not important. I wanted to make sure that it will be well taken care of.

It takes a laugh to learn

His philosophy of life also includes a great sense of humour.

– I used to give talks that were completely humourless, but I realized I could make science more interesting if I said something funny. In my family we also take humour seriously. It is a part of our life and work.

Ronald R. Sederoff enjoys coaching junior researchers. Here with the winners of the 3MT competition during the 2017 Marcus Wallenberg Prize event. From left Jack P. Wang, North Carolina State University, Jonas Wetterling, Chalmers University of Technology, and Minna Hakalahti, VTT Technical Research Centre in Finland.