

EPPENDORF AWARD FOR YOUNG EUROPEAN INVESTIGATORS

Presented in partnership
with **nature**



Geoff Marsh and 2011 winner Suzan Rooijackers

DEADLINE FOR ENTRIES!

We invite biological and biomedical researchers not older than 35 years, working in Europe, to apply for the 2012 Eppendorf Award. The deadline for entries is 15th January 2012. The prize ceremony will take place at the EMBL Advanced Training Centre (ATC) in Heidelberg, Germany. To find out more visit eppendorf.com/award.

The Eppendorf Award for Young European Investigators was established in 1995 to recognise outstanding work in biomedical science. It also provides the opportunity for young European researchers to showcase their work and communicate their research to a scientific audience. *Nature* is pleased to partner with Eppendorf to promote the award and celebrate the winner's work in print and online. *Nature* Podcast Editor Geoff Marsh talks to the 2011 winner Suzan Rooijackers about her work, and how it felt to win the award. To listen to the full interview, visit: nature.com/nature/awards/eppendorf

Geoff Marsh: *What was your reaction to winning the prize?*

Suzan Rooijackers: I was very surprised to find out that I had won this big European prize, and it also coincided with the birth of my daughter — so there were lots of good things going on.

GM: *What research were you working on at the time?*

SR: We work on the way bacteria deal with the immune system. Specifically, how bacteria respond to the complement system, which is very important for its role in flagging bacteria so that immune cells can recognise them.

GM: *How does the complement system do that?*

SR: When a bacterium enters the body, the complement system recognizes it and triggers a chain reaction that labels the bacterium with small molecules recognised by immune cells. It also makes small proteins that attract immune cells towards the site of infection.

GM: *You have found that *Staphylococcus aureus* has managed to sort of mask itself from the complement system. How does it work?*

SR: It does this by making these small proteins called 'SCIN' (*Staphylococcal protein inhibitor*). SCIN basically freezes the chain reaction of the complement system, thereby preventing the labelling process and the bacteria from being taken up by immune cells.

EPENDORF AND NATURE

Suzan Rooijackers is the sixteenth recipient of the Eppendorf Award for Young European Investigators, which recognizes talented young individuals working in the field of biomedical research in Europe. The Eppendorf Award is presented in partnership with *Nature*. The winner is selected by an independent jury of scientists under the chairmanship of Kai Simons (Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany). *Nature* and Eppendorf do not influence the selection. For more information see: eppendorf.com/award.

On behalf of Suzan Rooijackers, Jos van Strijp (right) received the Award from Kai Simons

GM: How does *S. aureus* infect people?

SR: It's a commensal bacteria, so it's not necessarily harmful, and can be found in several parts of the human body, including our nose and on our skin. It is also the most common cause of hospital-acquired infections, including post-surgical infections and prosthetic infections — like heart valves. It's also the main pathogen of catheter-associated infections.

GM: How might your findings lead to therapeutics?

SR: These immune-evasion molecules should be targeted in future vaccines. There has been a lot of effort to make vaccines against *S. aureus*, but they have all failed. As long as the bacterium still makes molecules to block the immune system, a vaccine will never work. We want to include a few of the molecules that we work with in a vaccine, and then hopefully a vaccine will be more effective.

GM: Are you more interested in developing therapeutics for *S. aureus* or in the basic science of immune evasion?

SR: Basic science interests me more. I am really interested in how exactly these immune evasion molecules work. I think it will help us to understand how the immune system works, and to learn how bacteria cause disease.

GM: What are you working on right now?

SR: Well, part of my research is to see if we can pinpoint a part of the molecule that interacts with the immune system. This is important for vaccine development because only a small part of the protein should be included in a vaccine.

GM: And so how has winning the prize affected your research?

SR: For a long time, people have known that bacteria do something with the immune system, but the idea was always that it makes a capsule, and that is it — which is pretty boring. Now, in the last ten years people have started to recognize that bacteria make all sorts of specific and unique small proteins to deal with the immune system.

GM: What are your team at Utrecht University, Holland, working on next?

SR: How other bacteria deal with the complement system is really interesting, because there are many other pathogens that have evolved ways to deal with the complement system (otherwise they wouldn't be successful pathogens).

Well I think there's just one thing left for me to do, and that is to present to you this certificate from *Nature*, Eppendorf's partner in this prestigious award, congratulations

Thank you very much.



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for Young European Investigators
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