

When the immune system overreacts - schoolgirls and a BfR scientist talk about allergies

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What's in the products we use every day? What functions do ingredients with complicated names such as “methylisothiazolinone” have? And how well do most people tolerate these substances? Dr. Katherina Siewert, scientist at the German Federal Institute for Risk Assessment (BfR), discussed this topic online with schoolgirls on 25 March 2021. The “NATürlich - Schoolgirls Meet Scientists” seminar series allows girls from the 10th grade onwards to discover more about various scientific fields of work and to get a glimpse into the everyday working life of female researchers.

Together with Dr. Ines Schreiver, Dr. Katherina Siewert directs the newly established “Dermatotoxicology Study Centre” at the Department of Chemical and Product Safety at BfR since 2020. During the virtual meeting as part of the “NATürlich” project, the biochemist explained her research on type IV allergies to the students. Certain chemicals that are often found in cosmetics, textiles, and (fashion) jewellery often trigger this type of allergy. When in contact with these substances, the immune system can create specific memory T cells. During subsequent contacts, these T-cells can trigger an allergic reaction. The most common type IV allergy is nickel allergy, affecting eleven percent of the population.

Allergy tests are available to identify the substance that triggers an allergic reaction. When testing for chemical allergies, a plaster with a test substance is applied to the skin for a period of time and then checked for a possible allergic reaction (e.g., reddening of the skin). At the Dermatotoxicology Study Centre, the team is working on new types of tests. The aim is to better understand allergies and to develop detection and predictions methods that require less effort and are more accurate than the existing tests.

The scientist's first encounter with the immune system was at school. She quickly realised that: “It's incredibly complex. I want to understand!” After studying biochemistry at the University of Potsdam, she conducted a doctoral thesis at the Max Planck Institute (MPI) for Neurobiology and first post-doctoral projects at the Ludwig Maximilians University in Munich. Since then, Dr. Siewert has been a researcher at the German Federal Institute for Risk Assessment (BfR) in the Chemicals and Product Safety department.

The girls' project “NATürlich” at Freie Universität Berlin allows schoolgirls to come into contact with the work of scientists in the fields of natural sciences/STEM and supports them in choosing their future career path. Due to the corona virus, the event series is held virtually for the first time.

Further information on the topic of allergies is available from the BfR website:

https://www.bfr.bund.de/en/a-z_index/allergies-129835.html



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About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. The BfR advises the Federal Government and the States ('Laender') on questions of food, chemical and product safety. The BfR conducts its own research on topics that are closely linked to its assessment tasks.

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