A researcher working for the environment

From Greenpeace to Bayer. What sounds like a paradox was actually a straightforward development in Dr. Tilghman Hall's life. The American tests the side effects of Bayer products on other plants.

Her career goal was clear from an early age: Tilghman Hall wanted to be a whale researcher. Growing up in Maryland, she loved nature and even as a schoolgirl she was fascinated by the way that living creatures adapt to their environment. So when studying biology, she investigated how anthropogenic factors affect the feeding and reproductive behavior of humpback whales living off the West Coast of Greenland and in the Caribbean. She also worked part-time for Greenpeace for a summer at the same time. The environmental organization and she had the same objective: to protect whales. Yet the budding scientist soon discovered that the focus of Greenpeace was too narrow to understand all the risks. Hall wanted to consider all viewpoints in order to see the full picture. "Biological systems tend to surprise us. They are resilient and often react in ways that we don't expect," she says.

Evaluating risks and benefits: Dr. Tilghman Hall investigates the potential side effects of crop protection agents on the environment. Her objective is safe, well-tolerated products.

This attitude has paid off in her work: from fall 2015 until summer 2017, Dr. Tilghman Hall headed up the four-strong Nontarget Plants Expert team, which is part of the Ecotoxicology department at Bayer's Institute of Environmental Safety in Monheim. The team investigates the potential side effects of Bayer products on plants that grow in the immediate vicinity of the crops to which the products are applied. Its task is to analyze both the risks and benefits of crop protection agents and weigh them up against each other. The scientists evaluate all new and existing studies, which gives them a multitude of component parts that they can use to generate a risk assessment.

Making crop protection products safer

At present, this means desk work for Hall most of the time. But when she started at Bayer before transferring to Germany, Hall conducted experiments with crop protection agents herself as the manager of the Aquatic Laboratory in Kansas. "I still work closely with my colleagues in the lab today. They provide the raw materials for our assessments," she says. "We interpret their laboratory or field data, together with information on exposure and ensure that the crop protection products do not have any unacceptable side effects." The agents must protect the crops but not have any negative effects on the surrounding area. Bayer therefore conducts field tests in several regions and under a variety of conditions. "Ideally there will be no risk. If potential side effects are identified, I look for their causes and develop solutions." Her objective is always to make the product safer while nonetheless achieving the targeted effect. "That's the exciting part of my work. I love challenges."

Hall originally came to Germany without her family, "During my first week in Monheim, my main thought was, 'What have I done?'" But she soon came to appreciate the joys of living abroad and loved her experience. Nevertheless, in the summer of 2017 she returned to her home country – that was planned from the beginning. Since August 2017, Hall has headed up Bayer's Environmental Toxicology and Risk Assessment unit in the United States, where she will devote her energy to the safety of plants, animals and waters in equal measure in the future. And she continues to take every opportunity to hike through both nature and different cities and cultures.

Back when she was a prospective whale researcher, Hall learned that the unexpected can always happen, leading one down a different path than anticipated. During her master's degree in environmental science, the whales she was studying suddenly moved to a different location. Hall then likewise changed her research focus. Instead of whales, she decided to concentrate on the ecotoxicological effects of foreign materials on the environment – a realignment that led her to Bayer and a career now spanning 21 years at the company.

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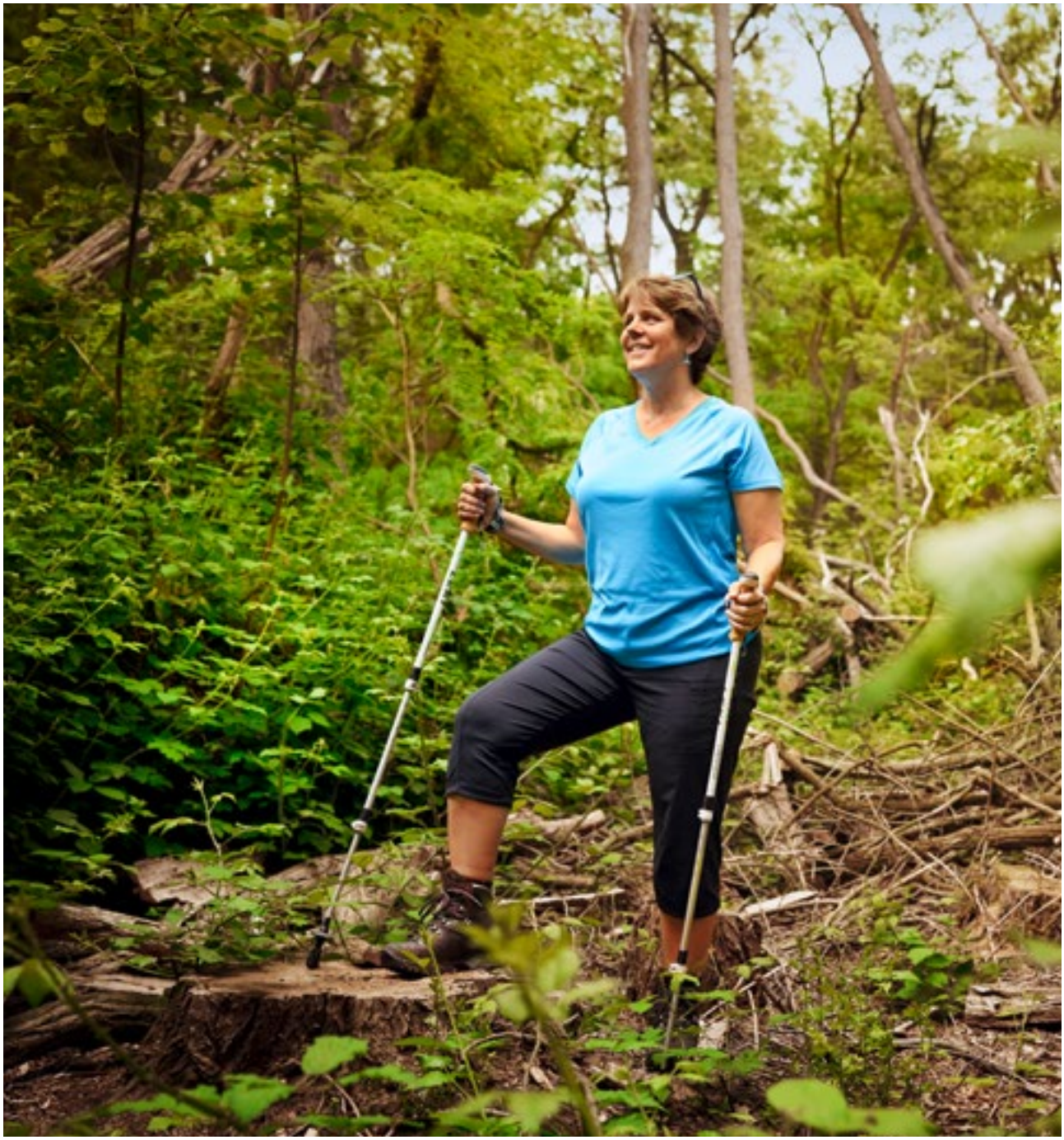

Keen hiker: during her time in Germany, Dr. Tilghman Hall indulged her passion for hiking both in the great outdoors and on visits to numerous European cities.

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