

Careers

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Professor Christine Lang on “good” microorganisms and her business start-up



Christine Lang

Professor Lang, most people want to avoid contact with bacteria at all costs. You started a company to search actively for bacteria. Why?

We look for bacterial strains with applications in the fields of nutrition, cosmetics, pharmaceuticals and white biotechnology. Our goal is to identify properties in “good” microorganisms that can be used in new products. When we say “good” we mean, for example, lactic acid bacteria, familiar from yoghurt or sauerkraut, or yeasts for producing drinks. Ideally, bacteria with a positive effect should predominate over harmful ones. Using the knowledge I bring from molecular biology and microbiology, we search our collection of bacteria to sift out the diamonds.

Have you found any yet?

We’ve got some products that have finished the research stage and are almost ready to go on the market. One example is the development of a lactic acid bacterium for use in toothpaste, mouthwash or chewing gum that acts specifically against caries. The advantage is that we avoid killing off the whole mouth flora, since a sterile mouth isn’t healthy either. We’ve found a bacterial strain in our collection that’s capable of recognising the surface of a caries bacterium and binding to it in seconds, a bit like a magnet or a Velcro fastening. In this state, the caries bacterium can’t adhere to the teeth and just gets rinsed away.

You did your postdoctoral thesis at the TU Berlin and worked on externally-funded projects. What made you turn your back on the academic world?

It was always like walking a tightrope. After my PhD I worked for two years in the chemical industry, in the

biotechnology department at Chemische Werke Hüls. After that I went back to the university where I set up a scientific research group. But I never lost sight of the fact that there are two sides to the coin – academic and applied research. About eight years ago I had the feeling that I couldn’t fully satisfy my thirst for knowledge at the university any more.

Why not?

I’ve got nothing against an academic career; after all, I’m still a professor at the TU Berlin. Universities are the right place for basic research, for example. But at some point I found it more interesting to see if it was possible to turn a particular idea into a product. Although being in business means you have more responsibilities, you also have more freedom. I just wanted to give it a try, even though I had no idea whether I was a born entrepreneur. That’s something you just can’t know beforehand.

That sounds like sleepless nights...

You always have doubts. For the first one and a half to two years we were really very unsure whether we’d make the break. In the first phase, when we drew up our business plan, we had support from the Technologie-Beteiligungs-Gesellschaft, a technology investment company that’s now part of the KfW banking group. But unfortunately we chose a period for our start-up when it was extremely difficult to raise money for biotechnology on the financial markets, and so it took us considerably longer than the year we’d planned to get the financial backing together, even though we used a parallel approach. We presented our project to the banks and venture capital companies, but we also tried to get industrial companies interested in cooperation.

Which approach was successful?

Both, in the end. But then we decided against venture capital in favour of going into research cooperation. Once the first project contracts were signed, we heaved a big sigh of relief. From then on we had a basis for developing everything else: new contacts, new partners for further research and development cooperation.

What was it that convinced people?

For one thing, we deliberately didn’t limit our target market to the pharmaceutical industry with its long approval times. We deliberately focused, too, on foodstuffs, animal feed and cosmetics, markets where establishing a product is quicker, even though the margins may be smaller. But it was important for us to be successful in the medium term. Much of our work was customer-specific from very early on, too. We visited the companies, talked to their people and so were quickly able to target our work to the needs of the market. That was the deciding factor in our success. ■

* Professor Christine Lang is since September 2012 a member of the Bioeconomy Council at the German National Academy of Science and Engineering (second working period).

ORGANOBALANCE – Company Vision

Microbial Shield

The skin and mucous membranes are naturally colonised by a wide variety of cultures. In an ideal world bacteria with a positive effect on health, so-called probiotic bacteria, dominate over likewise occurring, harmful ones. Should this system be thrown out of balance, a negative impact on health and well-being is preprogrammed.

ORGANOBALANCE unlocks the potential of probiotic bacteria and yeasts over and above their general effects for new, specific applications. A multitude of naturally occurring microorganisms is filtered to extract those which, when used in a targeted way, establish a microbial shield and correct any imbalances. In this way a new generation of probiotics is produced, whose applications include the fields of nutrition, health and cosmetics.

ORGANOBALANCE – in harmony with nature

“Nature offers many different ways of improving the health of mankind and the environment and of promoting the healing of diseases. We have made it our mission to systematically unlock these opportunities. To this end we specialise in the exploration and development of the diversity of nature. We exploit the potential hidden in food microorganisms in order to obtain mild products. This is how we help to find solutions to future challenges facing modern society. We apply our scientific and technical expertise and our ingenuity to design sustainable solutions.”

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Following a biology degree at Ruhr-Universität Bochum, Professor Christine Lang completed a PhD in natural sciences. After working for many years for an industrial research company, she lectured at Berlin University of Technology, where she obtained her postdoctoral qualification in microbiology and molecular genetics. In 2001, Christine Lang founded ORGANOBALANCE GmbH.