

Water chemist Urs von Gunten retires

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Professor Urs von Gunten is one of the world's best-known scientists when it comes to the treatment of drinking water, in particular oxidation and disinfection processes. He has been conducting research at Eawag since 1989, with interruptions; from 2006 he was a titular professor at ETHZ, and from 2011 a full professor at EPFL. Now he is retiring. He retains a consultancy mandate... and the freedom to critically scrutinise the narrative of Switzerland's leading role in research.

If he were an actor, he would probably have an Oscar in his living room. For researchers, the honours are not so media-effective. But Urs von Gunten's list of honours also reads well, at least for insiders, and could be extended almost indefinitely, see his CV: Honor Award for Scientific Excellence of the Environmental Chemistry Division of the American Chemical Society, Sandmeyer Award of the Swiss Chemical Society, ACS Award for Creative Advances in Environmental Science and Technology, three Harvey Rosen Awards of the International Ozone Association, Thomson Reuters Highly Cited Researcher, etc.

On the right side of science

"People always want to know what I'm researching," says von Gunten with a smile during an interview at EPFL. "But that changes immediately when I start going into detail." After graduating with a degree in chemistry from ETH Zurich, von Gunten built up a reputation as an international luminary in the field of water treatment. He worked on the development of oxidation and disinfection processes, which are now standard procedures in drinking water



production and wastewater treatment. With his research focus, he is clearly on the "right side" of science: even if we take unrestricted access to drinking water for granted in many parts of the world, the processes that turn water into drinking water still need to be further improved.

A well-known figure in Asia

This is precisely what lies behind von Gunten's success. The fact that he was and is not satisfied with publications in renowned journals and honours: Research must have an impact in practice. This is why the chemist has been heavily involved in collaboration with China since the 2000s. He is popular there, also thanks to the translation of his ozone book into Chinese. Copy-paste in China? "No problem," says von Gunten, "it wasn't stolen and it was for the benefit of the people in China." And today? "It's a shame that the window of an open China is closed again," says the soon-to-be retiree, "today we can exchange ideas with researchers in China on an equal footing in the water sector, but in other areas, such as artificial intelligence, WE have to go to THEM to learn, not the other way round." In addition to his involvement in China, Urs von Gunten has also established a long-standing collaboration with researchers in South Korea. Although South Korea is very different from Switzerland at first glance, he quickly realised that the research approach and scientific ethics in both countries are very similar.

No fear of political statements

The excursus on China also has a political flavour. Von Gunten is not afraid to criticise political narratives that he believes are wrong. For example, believing that with a few million francs, Switzerland could be at the forefront of the global, trillion-dollar race for digital progress. "That's absurd," he says, "we would be better off looking for niches, for example researching the consequences of digitalisation for society in order to protect people from negative consequences. An Eawag of digitalisation should be the goal of activities in this area." Von Gunten is also concerned about the current dismantling of Swiss environmental legislation. If, for example, authorisation and monitoring in the area of pesticides are scaled back, decades of work at Eawag could be weakened and water quality for both drinking water and ecosystems could deteriorate.

Fine-tuning is the strength of science

Is there a risk of resignation among committed researchers? "No," says Urs von Gunten, "short-term profit maximisation and the individualisation of society are global phenomena, and it has never been the strength of politics to find complex solutions to complex problems." It is therefore all the more important today to research these complex problems and develop scientifically based, finely tuned solutions. To do this, it must be ensured that research can be dedicated to the same problem over a longer period of time. This has so far been the case in the ETH Domain, but as developments in the USA, for example, show, this is not guaranteed

Sabbaticals, transdisciplinary projects and industry internships are key

What guarantees that research has an impact? For Urs von Gunten, three sabbaticals at universities abroad and more than 20 sabbatical guests at Eawag and EPFL were decisive for new impulses. Collaboration with other disciplines and with practitioners has led to an



understanding of what "researchable questions" are. These then need to be abstracted so that "real" science can be done, for example to understand processes that take place in large-scale plants, he says. "For me, being a visiting scientist at SUEZ's central research laboratory was a key experience. I was sceptical at first. But I began to understand the engineers' point of view and their questions. That often helped me later on." This also helped Eawag as a whole, for example in terms of good cooperation with the Zurich Water Supply Authority (WVZ) or in cross-cutting projects across several departments and together with authorities and practitioners, such as Wave21 or "Regionale Wasserversorgungen Basel-Landschaft 21", which he led. At Eawag, von Gunten would prefer to make both guest visits to large companies and cross-cutting projects compulsory. "Academic metrics are ok, but it's even more motivating to see something being implemented."

Cover picture: Peter Penicka, Eawag

Friday, 9 Mai 2025, 2 to 5.15 pm
Farewell event for Urs von Gunten, Forum Chriesbach, Lecture Hall C20
Program [pdf]





Video farewell lecture at the EPFL from 2 April 2025

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