“Science is able to instigate change”

For ten years, Daniel Höchli was Director of the Administrative Offices of the Swiss National Science Foundation. Despite signs of crisis he remains upbeat about the future of science.

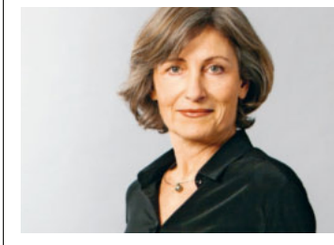
Mr Höchli, you can look back on ten successful years: the SNSF has grown considerably. Which developments are you particularly proud of?
An industry representative in the Foundation Council once told me that the Administrative Offices were managed like a good company. They have become more modern and more efficient during my time as director – that’s something I am proud of. The positive development in funding policies is primarily the achievement of the Presiding Board of the Research Council.

How did you convince politicians to invest in science – which is after all an investment without any guarantee of success?
External factors play an important role: the excellent Swiss universities create a positive environment and most private sector companies understand the importance of basic research. The SNSF has been able to show that it manages public money conscientiously and penalises fraudulent behaviour. And it has signalled understanding when not all of its needs were met. Research in Switzerland is important, but it is not the only cause deserving support.

The years of plenty in research funding are over. How will this affect young researchers?
We have to reconsider our plans: we will not be able to introduce all the measure that we proposed in the multi-year programme. But young researchers continue to be a priority. We are modifying our funding schemes so that talented young researchers can work independently at an earlier stage in their career.

The science system is in crisis: quantity is often more important than quality. Do you agree with this assessment?
To call it a crisis is exaggerated. But it is obvious that the pressure to publish at a high rate creates the wrong incentives. Researchers in the life sciences, in particular, produce too many results that others can’t reproduce – that is problematic even if we accept that it is difficult to reproduce results obtained in experiments on living organisms. By signing the DORA declaration, the SNSF has signalled a change of direction. I find it encouraging that scientists themselves are pushing the debate. They are the ones who can instigate change.

If you could magically change something in Swiss research, what would it be?
I would improve the working conditions of young researchers. We need better career advice services, progress evaluations and tenure track professorships. It cannot be right if researchers in their mid-40s are suddenly unwanted or frustrated and in search of a new career.



New director of the SNSF

Angelika Kalt was appointed new director of the SNSF in January. She was elected by the Executive Committee of the Foundation Council as successor to Daniel Höchli, who left the SNSF at the end of March to become director of CURAVIVA Schweiz. Angelika Kalt has a PhD in earth sciences and was professor of petrology and geodynamics at the University of Neuchâtel for eight years. In 2008, she joined the SNSF as Deputy Director. She started in her new role as director on 1 April 2016.

“To exploit big data, we also need a public debate”

Government and industry hope to use big data to improve their services. The SNSF has launched a new research programme to foster both innovation and a broader, societal perspective.

The analysis of large amounts of data holds the promise of new applications in numerous domains but also raises many societal questions. The new National Research Programme “Big Data” (NRP 75) addresses the technical questions raised by big data, such as infrastructures and security, while also covering the societal challenges, particularly social acceptance, regulatory and economic aspects, and the development of new applications.

“Privacy issues need to be debated publicly and openly”, says Christian S. Jensen, president of the Steering Committee. “Insights from the social sciences are crucial.” Now a computer scientist at Aalborg University in Denmark, he previously worked at the universities of Aarhus (DK), Arizona and Maryland as well as in the Google headquarters near San Francisco.

Mr Jensen, why is big data so important?

It’s the confluence of the unprecedented amounts of available data and capabilities of computing and communication infrastructures. This yields new opportunities to create value from data, economically as well as socially. Big data combines fundamental technological questions with a potential for applications in many different areas.

Where do you expect the biggest impact?

Prediction is always hard. One approach is to look at where large masses of data are produced: our digitised social lives, online and real-life shopping, e-government, logistics, insurance, transport and medicine.

What are the challenges?

The volume of data and the speed at which data is generated create challenges. Extracting information from heterogeneous and not always accurate data sources poses a further challenge. We should not impose unwanted technology on users who do not feel comfortable with it. Another challenge is to manage the ownership and sharing of data. Data is an asset, and the more you share it, the more value it can have. But since data has value, how can ownership be protected? How can we have marketplaces for data? Society has to find a balance between sharing and protection.

Is there a risk of backlash, should privacy be compromised?

We need an ongoing public debate, an informed population and media that question the use of this technology. I see a trend towards acceptance of less privacy, especially among younger people. People should be in control of their data, know how it is being used, and be able to delete it.

Data is gold, but do we put too much trust in it?

Quantifying an aspect of our lives tends to make us focus on it. This might empower us to do more, like the fitness watch that counts our steps and motivates us to walk longer distances. But other important aspects of our lives that are not quantified might suffer from a lack of attention. Aspects for which data is hard to collect might be as important as aspects for which data is available. We have to look critically at the consequences of being data-centric.

Big data has great potential for applications in many different areas, says Christian S. Jensen.

Four new NRPs

Three new National Research Programmes (NRPs) were approved by the Federal Council in June 2015. NRP 75 is focused on the technical and societal issues raised by big data, NRP 72 targets global approaches against the rise of antimicrobial resistance and NRP 74 considers ways of improving the Swiss health care system. The SNSF published the calls for proposals in autumn 2015. The projects will be chosen and announced by the end of 2016 and start in spring 2017. A fourth programme comprising research on sustainable economy, NRP 73, was approved in March 2016.

Focused on interdisciplinary and transdisciplinary research, the NRPs generate scientific knowledge aimed at solving Switzerland’s most pressing problems.