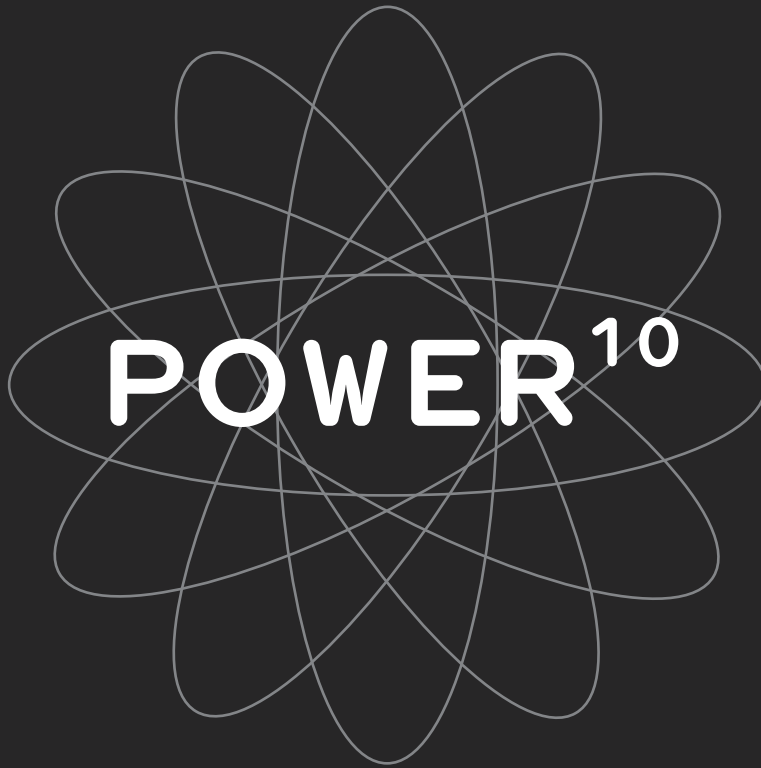


The faces of Swiss excellence

BY SERGE MAILLARD

- Patents
- Scientists
- Labs



All indicators confirm that research is thriving in Switzerland. The country has an impressive number of Nobel Prize winners per inhabitant (it's third in the world behind the Faeroe Islands and Santa Lucia) and ranks first in the number of citations per published article.

To celebrate its 10th issue, Reflex offers a triptych that, rather than trying to identify the "best" in any category, illustrates the sheer variety and breadth of research that bears the "Made In Switzerland" label.

From genetics to political analysis, from cryptography to art history, we present 10 young researchers who embody scientific excellence; 10 unique laboratories that enhance the country's visibility; and 10 patents that show how Switzerland profits from its brainpower.

Swiss scientists snag European research funding

"We're looking for the Nobel winners of tomorrow," explains Katja Wirth Bürgel of Euresearch, the Swiss office that provides liaison with the EU's European Research Council. For the second time, the Seventh Framework Program of European Union announced 528 million euros worth of

grant for young researchers. And for the second time, Switzerland, which participates as an associated country, distinguished itself with the number of projects funded.

Of the 237 young researchers who obtained "ERC starting grants" in

2009, 18 worked in Swiss institutions. In absolute numbers, that puts the country in fourth position behind the UK, France and Germany. But in terms of grants per inhabitant," notes Wirth, "it's Europe's highest rate of success."

The thread of history



Painting is not the only art form through which human genius is expressed, but it is certainly one of the better known. **Tristan Weddigen**, professor of art history at the University of Zurich, wants to balance the record by recognizing the importance of textiles. "Textiles are traditionally considered as mechanical, reproductions and feminine," explains the 40-year old Swiss scientist. "Until now that has hindered research."

What historical significance have textiles represented in art and architecture from the Middle Ages to the present? "We would like to reveal the significance of images originating from one of humanity's most important cultural techniques," says Weddigen, who is currently serving as invited professor at the prestigious Getty Institute in Los Angeles.

Fighting cancer

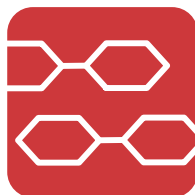


Basel's **Friedrich Miescher Institute (FMI)** was named for one of the fathers of DNA – the local scientist who first purified nucleic acids.

Created by the pharmaceutical companies Ciba and Geigy in 1970, the biomedical research center is now funded by the Novartis Research Foundation. Nicolas Favre, who is in charge of intellectual property, explains that the FMI is situated "at the interface of academic research and biomedical applications." It is associated with the University of Basel and cooperates with Novartis scientists in many ways.

Recognized worldwide in the fight against cancer, it symbolizes the excellence of basic research in the Swiss private sector in three fields: epigenetics, control of cell growth and neurobiology. "When our institute makes a discovery, we try to sell a license," Favre explains. "In exchange for funding, the Novartis group has first rights to patents."

A protein encyclopedia



In 1986, University of Geneva professor Amos Bairoch created the **Swiss-Prot** database, an encyclopedia of proteins used by hundreds of thousands of scientists the world over. More than 30,000 people access it daily. "Our primary mission is to manually verify protein sequences from thousands of different organisms, and make available the biological information associated with them," explains Marie-Claude Blatter, communications manager for the group.

Since 2003, Swiss-Prot (Swiss Institute for Bioinformatics) has been part of the UniProt consortium, together with the European Institute for Bioinformatics in the UK and the Protein Resource in the U.S. "We are trying to respond to a pressing research need: rapid access to high-quality data," says Blatter. "It's a fascinating if painstaking job."

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Getting to the heart of things



"How do you know, when you are inserting a catheter, if you are pressing hard enough on the heart wall?" This question commonly asked by cardiologists intrigued Giovanni Leo, co-founder of the company **Endosense**. "In 2003, I joined forces with Dr. Vitali Verin from the Geneva University Hospitals and engineer Nicolas Aeby," he explains. "Together, we developed a technological solution using an optical fiber as a sensor."

With funding from several venture capitalists, their product, TactiCath, was commercialized at the end of 2009. "We've just signed an exclusive distribution contract with Biotronik," he says with enthusiasm. The product will be used in hospitals that treat atrial fibrillation.