

## Switzerland

www.pixabay.com

Switzerland is a mountain-rich country with 8.4 million inhabitants in central Europe, bordering to Germany, France, Italy, Austria and Lichtenstein. It is well connected to the countries of the European Union. Its pristine natural resorts and well-developed infrastructure make it a prime site for visitors from all over the world. Switzerland has practiced democracy and the peaceful exchange of cultural tradition for hundreds of years, while remaining open to the world and foreign cultures. Switzerland is well positioned in science and innovation, and has top-rated Universities and a widely recognized dual track education system for academics and professionals. Switzerland ranks always among the top 5 countries in the world with respect of living standard and safety. The official languages in Switzerland are German, French, Italian and Romansh, but English is also spoken, not only in major cities, but also often in the countryside. Also, Switzerland is the country with the highest proportion of Nobel prize laureates per capita: in fact, Jacques Dubochet from the University of Lausanne was awarded the 2017 Nobel prize in Chemistry for the development of cryo-electron microscopy.



General touristic information on Switzerland and its cities can be found at: <https://www.myswitzerland.com/en-ch/swiss-cities.html>

### Cell Biology and Biochemistry in Switzerland

Universities in the French and German speaking regions of Switzerland offer top ranking life science education programs. In fact, the federal Institutes of Technology in Zurich (ETHZ) and Lausanne (EPFL) are amongst the top institutions world-wide, together with the internationally highly respected Universities of Geneva, Lausanne, Bern, Basel and Zurich. All of these institutions have very competitive international PhD programs. PhD programs and most master programs are taught in English. The salaries and stipends are generous allowing students and postdocs to fully concentrate on their science and still maintain an excellent work-life balance. The excellent research conditions have attracted many international faculty members, and students are trained by world experts. The universities are outstandingly equipped with advanced technologies providing students with the opportunity to be trained with state-of-the-art instrumentation. The research landscape is complemented by excellent research institutions such as the Friedrich Miescher Institute and the Paul Scherrer Institute. The chemical and pharmaceutical industry is very strong in Switzerland, contributing to 4.8% of the GDP in 2016 ([www.eda.admin.ch](http://www.eda.admin.ch)). Switzerland is home of big pharma like Novartis and Hoffmann-La Roche, but also hundreds of Biotech and Pharma companies/start-ups in hubs around the Basel and Zurich Biotech Clusters, and the Geneva-Lausanne area (dubbed Swiss Health Valley).

### Universities and Research Institutes in Switzerland

- University of Basel (Basel), [www.unibas.ch](http://www.unibas.ch)
- University of Bern (Bern), [www.unibe.ch](http://www.unibe.ch)
- University of Fribourg (Fribourg), [www.unifr.ch](http://www.unifr.ch)
- University of Geneva (Geneva), [www.unige.ch](http://www.unige.ch)
- University of Neuchâtel (Neuchâtel), [www.unine.ch](http://www.unine.ch)
- University of Lausanne (Lausanne), [www.unil.ch](http://www.unil.ch)
- University of Lugano (Lugano), [www.usi.ch](http://www.usi.ch) / <http://www.irb.usi.ch>
- University of Zurich (Zürich), [www.uzh.ch](http://www.uzh.ch)
- Swiss Federal Institute of Technology Lausanne (EPFL) (Lausanne), [www.epfl.ch](http://www.epfl.ch)
- Swiss Federal Institute of Technology Zurich (ETH) (Zurich), [www.ethz.ch](http://www.ethz.ch)
- Friedrich-Miescher-Institute of Biomedical Research (Basel), [www.fmi.ch](http://www.fmi.ch)
- Paul-Scherrer-Institute (Villigen), [www.psi.ch](http://www.psi.ch)

### Research funding in Switzerland

Switzerland strongly supports basic research and the development of applied science with approximately 3% of the GDP. The total national (federal) and local (cantonal) research funding amounts to almost 5.5 billion USD, and another 11.5 billion USD are contributed by the private sector (<https://www.sbfi.admin.ch/sbfi/en/home/research-and-innovation/research-and-innovation-in-switzerland/r-and-i-report.html>). The main federal research funding institution in Switzerland is the Swiss National Science Foundation (SNF, <http://www.snf.ch/en>), which funds research projects of established and internationally renowned scientists in Switzerland. The SNF also supports career funding programs at different levels, including postdoc, first independent level (Ambizione) and professorships (Eccellenza). In addition, Switzerland is partner of the European Commission science funding programs for competitive research consortia with scientists from different countries (Horizon 2020, <http://ec.europa.eu/programmes/horizon2020/>), and for individual competitive grants from the Marie Skłodowska-Curie Fellowship program (MSC, <http://ec.europa.eu/research/mariecurieactions/>) and the European Research Council (ERC, <https://erc.europa.eu/funding/starting-grants>). Over the last decade, researchers in Switzerland have had the highest rate of success (24%) in the competition for ERC grants well above the average around 11% (<https://www.sbfi.admin.ch/sbfi/en/home/news/medienmitteilungen.msg-id-67466.html>).

This illustrates that Switzerland is at the forefront of innovation and scientific discoveries.

**A complete booklet entitled “Higher Education and Research in Switzerland” is provided by the Swiss State Secretariat for Education, Research and Innovation (SERI) is to be found at <https://www.sbfi.admin.ch/sbfi/en/home/research-and-innovation/research-and-innovation-in-switzerland/r-and-i-report.html> (19.11.2018)**

### **Important links**

(information taken from <https://www.swissuniversities.ch/en/topics/research/research-funding/>, 17.10.2017)

The universities provide funding for research, e.g. as part of hiring or in the form of research funds, and in doing so they attempt to create an optimal framework. At the same time, they support their researchers in the acquisition of third-party funds, as the majority of research at Swiss universities is funded this way:

#### **1. Swiss National Science Foundation**

All funding schemes offered by the Swiss National Science Foundation e.g., for young researchers, Postdocs, excellent women researchers at Postdoc level, and SNSF professorships, but also for public science communication, can be found under:

<http://www.snf.ch/en>

#### **2. Innosuisse (former Commission for Technology and Innovation CTI) (<https://www.innosuisse.ch/inno/en/home.html>)**

#### **3. European Research & Innovation Commission (<http://ec.europa.eu/research/index.cfm>)**

- EU research fellowship program - Marie Skłodowska-Curie Actions (<http://ec.europa.eu/research/mariecurieactions/>)
- ERC grants for frontier research (<https://erc.europa.eu/funding/starting-grants>)
- Horizon 2020 (<http://ec.europa.eu/programmes/horizon2020/>)

#### **4. EMBO (<http://www.embo.org/funding-awards/fellowships>)**

- Short-term fellowships fund research exchanges of up to three months between laboratories in eligible countries
- Long-term fellowships support post-doctoral research visits to laboratories throughout Europe and the world

#### **5. Human Frontier Science Program (HFSP)**

- HFSP funding programs are strictly project-related and begin at the postdoctoral level. HFSP supports novel, innovative and interdisciplinary research (<http://www.hfsp.org/funding>)

## **Life Sciences Switzerland (LS<sup>2</sup>)**

Life Sciences Switzerland (LS<sup>2</sup>, <http://www.ls2.ch/>) is the largest non-profit organization for Life Scientists in Switzerland, with a very active and dynamic communities in “Molecular & Cellular Biosciences”, “Proteomics”, “Physiology”, “Cardiovascular Biology”, “Autophagy”, and “Systems Biology” and its many partner societies. LS<sup>2</sup> represents a unique platform to foster and support the interests of Life Sciences and their scientists in Switzerland, and in promoting their interests towards the public.

Much like ASCB, LS<sup>2</sup> is a grass-root organization with individual affiliation. LS<sup>2</sup> shares with ASCB the same goals in promoting Life Sciences and advancing scientific discovery. LS<sup>2</sup> is also dedicated to supporting Life Scientists and advocating appropriate research policies in national political debates on education, research, and developments.

LS<sup>2</sup> organizes an annual meeting, alternating between the German- and French-speaking parts of the country, with the **next upcoming meeting in Zurich, February 14-15, 2019 with the topic: “Cell Biology from Tissue to Nucleus”** ([www.annual-meeting.ls2.ch](http://www.annual-meeting.ls2.ch)). The Annual Meeting brings together scientists from all nations and backgrounds to explore the large spectrum of disciplines in Life Sciences. In addition, career sessions to kick-start young scientists looking for a first independent position (e.g. the “PIs of Tomorrow” session) are highly popular. LS<sup>2</sup> also organizes workshops, section meetings, satellite meetings, and events aimed at the public ([www.meetings.ls2.ch/](http://www.meetings.ls2.ch/), [www.ls2.ch/public-events/](http://www.ls2.ch/public-events/))

**LS<sup>2</sup> is member of the Swiss Academy of Sciences (SCNAT) ([www.naturalsciences.ch](http://www.naturalsciences.ch)) and has affiliations to:**

- Federation of European Physiological Societies (FEPS), [www.feps.org](http://www.feps.org)
- Federation of European Biochemical Societies (FEBS), [www.febs.org](http://www.febs.org)
- European Proteomics Association (EuPA), [www.eupa.org](http://www.eupa.org)
- European Biophysical Societies' Association (EBSA), [www.ebsa.org](http://www.ebsa.org)
- International Union of Biochemistry and Molecular Biology (IUBMB), [www.iubmb.org](http://www.iubmb.org)
- The American Society for Cell Biology (ASCB), <http://www.ascb.org>

