PRESS RELEASE

BIOINFORMATICS, A SWISS PRIDE

20 years of service to the life sciences and health

***Lausanne, 9 April 2018* – Whether we are retracing the history of our ancestors[1], designing new drugs[2] or understanding what gives Swiss Gruyère its unique flavour[3], bioinformatics has become an essential discipline. As a pioneer in the field, Switzerland is recognized for its know-how and expertise. The SIB Swiss Institute of Bioinformatics was formed on 30 March 1998 thanks to the support from the Confederation, which recognized the promising future of this new discipline, at the crossroads of biology and information technology. The Institute is now celebrating its 20th anniversary – an opportunity to take stock of two decades of discoveries and future challenges in areas such as medicine. Several original projects are planned throughout the year, to raise awareness of bioinformatics and its key players among a wide audience, and include a mobile game, videos, a web series and a book combining art and science.**

The SIB in 20 years: a spectacular rise reflecting a fast-growing field

Now the leading national bioinformatics network in Europe, SIB was formed in Switzerland in 1998, expressing the vision of five pioneers in the discipline, based in French-speaking Switzerland and studying mainly proteins, genes and their functions. Twenty years later, and thanks to the strong relationships it has developed with renowned academic institutions throughout Switzerland, SIB now has almost 800 scientists, including 200 employees, with activities extending from the study of evolution and systems biology to promising fields such as personalized health, text mining and machine learning. The fields of application are no less varied, ranging from agriculture to ecology, nutrition, health and more.

What is bioinformatics?

New technologies have prompted an explosion in the quantity of biomedical information available, such as genetic, biochemical and biomedical imaging data. In order to interpret these data and thus answer fundamental questions, researchers and clinicians rely on software, databases (for example, listing all current knowledge about a particular molecule), data science experts or high-performance computation and storage centres. This is the field of bioinformatics: the application of information technologies to understanding biological and clinical data.

The prospect of precision medicine: not without bioinformatics

SIB rightly plays a key role in the field of personalized health – in which tailor-made diagnoses are based on the molecular profile of each patient – at a number of levels:

- by developing clinical applications of bioinformatics, through building partnerships with Swiss hospitals and clinics (e.g. the oncology diagnostic platform Oncobench™ used routinely by the Geneva University Hospitals);
- by creating a secure infrastructure to use clinical data for research purposes, in the context of the Swiss Personalized Health Network (SPHN) initiative;
- by training health professionals in bioinformatics methods (e.g. through the Certificate of Advanced Studies (CAS) in Personalized Molecular Oncology);

[1] Malaspinas A-S *et al.* A genomic history of Aboriginal Australia. Nature 2016
[2] http://www.drug-design-workshop.ch/
[3] Moser A *et al.* Amplicon Sequencing of the *slpH* Locus Permits Culture-Independent Strain Typing of *Lactobacillus helveticus* in Dairy Products. Front. Microbiol. 2017

Quartier Sorge
Bâtiment Génopode
CH-1015 Lausanne
t +41 21 692 40 50
communication@sib.swiss
www.sib.swiss

- by raising awareness among the general public (e.g. through the *Planète Santé Live* event).
The Institute is also involved in research, with over two thirds of its Groups working on health-related topics.

Switzerland: a pioneer in the field

According to the State Secretary for Innovation, Research and Education, Mauro Dell'Ambrogio, "Thanks to SIB, Switzerland has been a first-mover in the bioinformatics field internationally" (see interview). In fact, Switzerland was one of the first countries to recognize the importance of this field and equip itself with a national infrastructure, promoted and coordinated by SIB. Europe followed suit, with the creation of ELIXIR, an organization in which Switzerland is represented by SIB. Today the country even has the highest concentration of bioinformaticians in the world!

The 800 SIB scientists develop tools and biological databases that are used by millions of researchers throughout the world, such as the global database of protein information, UniProtKB/Swiss-Prot, which has over 650,000 users a month. They are thus contributing to advancing research and preserving knowledge, to everyone's benefit.

A year of projects and events: a film, a mobile game, a web series, a book and more...

Thanks to the support of generous sponsors, the SIB has launched several innovative initiatives to raise awareness around bioinformatics and associated issues, such as: sharing the daily life and challenges of a bioinformatics specialist, through seven episodes of a humorous web series; exploring our genome and the variations responsible for our particular physical or metabolic characteristics, with the Genome Jumper game; discovering the colourful and often offbeat side of SIB Group Leaders, captured by the Swiss photographer Nicolas Righetti, and learning about the history of bioinformatics with a book; a 2min institutional film "SIB, the movie - Bioinformatics in action". All these projects are scheduled for release along the year, and can be followed on: www.sib.swiss/20years.

About the SIB Swiss Institute of Bioinformatics

The SIB Swiss Institute of Bioinformatics is an academic not-for-profit organization whose mission is to lead and coordinate the field of bioinformatics in Switzerland. Its data science experts join forces to advance biological and medical research and enhance health. SIB (i) provides the national and international life science community with a state-of-the-art bioinformatics infrastructure, including services, resources, expertise; and (ii) federates world-class researchers based in Switzerland and delivers training in bioinformatics. The institute includes some 70 world-class research and service groups including 800 scientists in the fields of genomics, proteomics, evolution and phylogeny, systems biology, structural biology, text mining and machine learning and personalized health.

PRESS CONTACT

Marie Dangles – Head of Communications, SIB – marie.dangles@sib.swiss

Maïa Berman – Communications Manager, SIB – +41 21 692 4054 | maia.berman@sib.swiss

© SIB Swiss Institute of Bioinformatics, Photo: Nicolas Righetti | Lundi13

© SIB Swiss Institute of Bioinformatics, Image from "SIB, the movie – Swiss bioinformatics in action"

Quartier Sorge
Bâtiment Génopode
CH-1015 Lausanne
Switzerland
t +41 21 692 40 50
communication@sib.swiss
www.sib.swiss