



Swiss Institute of
Bioinformatics

PRESS RELEASE

Understanding precision medicine with PrecisionMed.ch

A new website for all

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Lausanne, 6 November 2019 – While precision medicine is already a reality in the field of cancer treatment, there are many questions for the general public and patients around this new approach and the associated technologies. Who is involved in the choice of these targeted treatments? How is the patient looked after? What is the role of bioinformatics? The [PrecisionMed.ch](https://www.precisionmed.ch) website, developed by the SIB Swiss Institute of Bioinformatics, in collaboration with the University of Lausanne and the CHUV (Lausanne University Hospital), with the support of the SantéPerSo initiative, offers illustrated information accompanied by videos and a glossary to improve understanding of these new approaches and the associated issues at stake.



A response to an increasing need for information

In oncology, analysis of tumours at the molecular level (DNA and proteins) is already routinely used in many cases. This analysis enables more precise diagnosis and, sometimes, an offer of personalised treatment. “Patients in French-speaking Switzerland have benefited since 2016 from the expertise of a Molecular Tumour Board (MTB), bringing together oncologists, geneticists, pathologists, biologists and bioinformaticians,” says Vincent Zoete, Group Leader at SIB as a Molecular Modelling researcher (University of Lausanne and Ludwig Institute for Cancer Research Lausanne), Member of the MTB and co-Principal Investigator of the PrecisionMed project. The increasing complexity of data, the many contributors involved and high expectations lead to an increasing need for information. “With [PrecisionMed.ch](https://www.precisionmed.ch) we are aiming to explain the various analyses undertaken following the biopsy of a tumour, the role of bioinformatics and how, in certain cases, the results allow an offer of treatment tailored to the individual patient,” says Marie-Claude Blatter, SIB’s Scientific Outreach Manager and project coordinator.

Molecular approaches for adapted treatments

[PrecisionMed.ch](https://www.precisionmed.ch) reveals the link between genes, proteins – those molecules which are essential to the building and functioning of organisms – and diseases such as cancer. It shows how a one-off change in DNA can modify the tridimensional structure and the function of a protein, such as the control of cell division, thereby drawing attention to the important role of bioinformatics and molecular modelling. When no information is available on a particular mutation, modelling can in certain cases enable prediction of its effect on the structure of a protein or the possible development of resistance to a treatment. The website therefore highlights two key opportunities afforded by precision medicine: on the one hand the possibility of avoiding giving a treatment with serious side effects to patients known, as a result of genetic analyses and molecular predictions, to be resistant to it; on the other, the possibility of extending the use of a medicine traditionally prescribed for a given cancer where there are certain specific mutations, to other pathologies in which the same mutations are found. “Genetic and molecular approaches are thus contributing to the rationalisation of the design and use of medicines,” notes Professor Zoete.



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A tool to discover precision medicine

A navigation by themes, illustrated information pages including video interviews with patients and MTB experts produced in collaboration with Canal 9, the Valais cantonal TV channel, and a glossary make Precisionmed.ch a discovery tool suitable for the general public. Olivier Michielin, Group Leader at SIB and Chief Physician in Personalised Oncology at CHUV is enthusiastic: “This website is a mine of information for everyone, based on the latest technological and therapeutic advances. Such a resource is an essential to support the precision medicine revolution in oncology.” “[PrecisionMed.ch](#) complements a first website launched by SIB in 2013: a virtual exhibition on the human chromosome [ChromosomeWalk.ch](#), supported by the Leenaards Foundation” explains Marie-Claude Blatter.

HIGH DEFINITION ILLUSTRATIONS

ABOUT SIB

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 80 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.

ABOUT THE SANTEPERSO INITIATIVE

The [SantéPerSo initiative](#) (from the French *Santé Personnalisée & Société* - Personalised Health & Society) is organised around research projects and an internet platform for exchange of information and ideas. It aims to nourish and stimulate debate on the issues around future health. The discoveries and unprecedented technological progress achieved in recent years, such as precision medicine, high-throughput sequencing, genomics, risk profiles and quantified self, are transforming the landscape of health and medical treatment. Every individual is affected and should play a part in this change. Santé PerSo offers them the opportunity to obtain information and exchange ideas around the vast subject of personalised health. The initiative also aims to bring together experts in the different fields involved in this subject, and to support innovative initiatives in French-speaking Switzerland.

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