

SystemsX.ch 2008-1012

Prof Dr Ruedi Aebersold
SEB Chairman 2007-2012

Bern | May 13, 2013



SystemsX.ch
The Swiss Initiative in Systems Biology

New Situation in HT Biology (ca 2000)

➤ **Technology**

- Large datasets generated by HT technologies (genome, transcriptome, proteome , phenotypic screens)
- High performance computing enters biology
- New abilities to systematically perturb systems

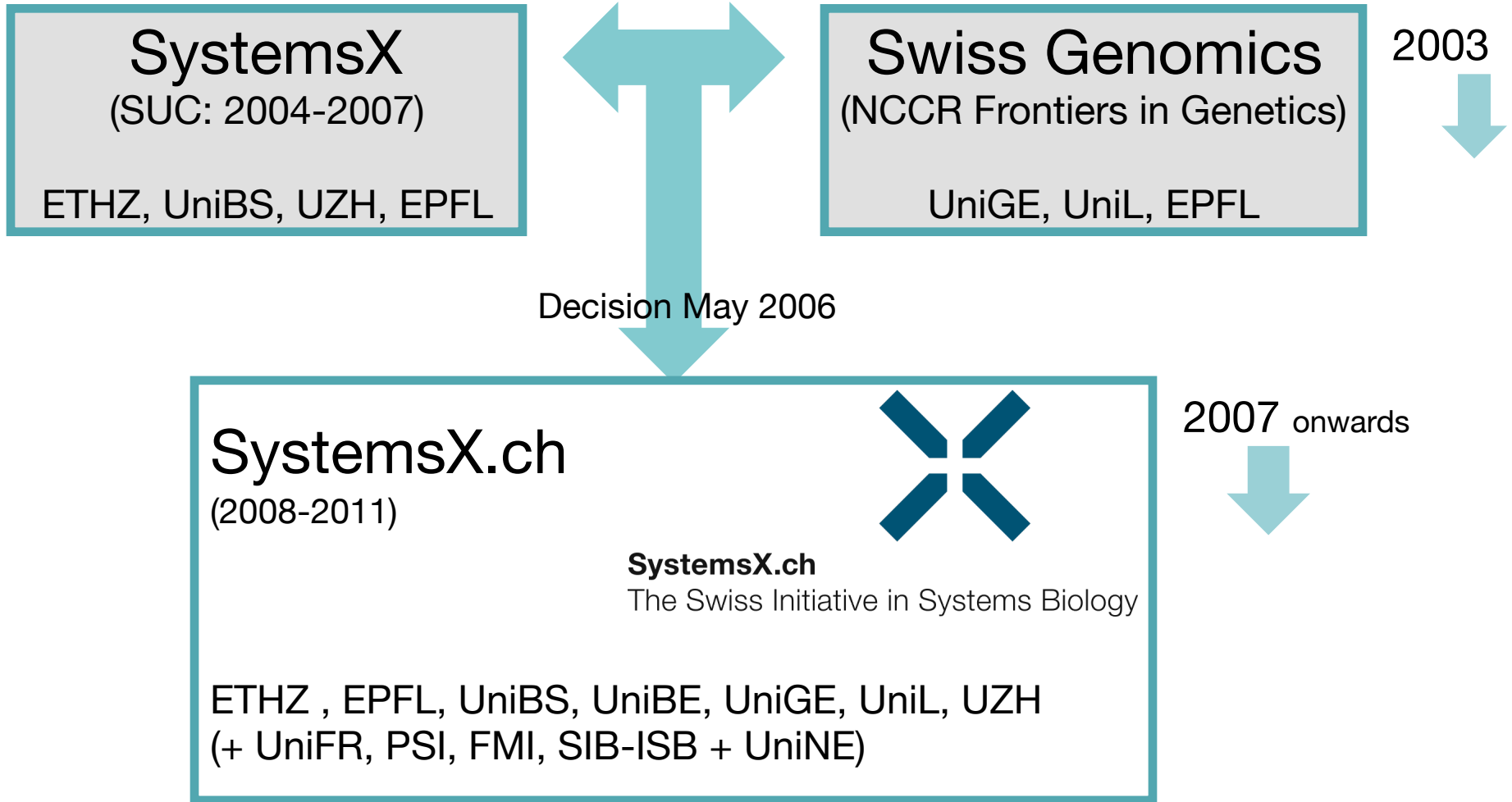
➤ **Biology**

- Most phenotypes are complex
- The data can no longer be analysed only by scientist's intuition
- The classical paradigms (Mendelian Genetics, One gene-one Protein-one- Function) are insufficient to explain complex processes





SystemsX.ch: The Swiss Initiative for Systems Biology



SystemsX.ch is a prototype model
for collaborative Science Projects in Switzerland



SystemsX.ch: An opportunity for Swiss Science

Aims of SystemsX.ch:

- × to assemble scientific competences on the national level to establish Switzerland as a **systems biology center** at an international level, with particular focus on **quantitative and predictive** biology;
- × to put a truly **interdisciplinary research culture** into practice by bringing complementary disciplines together in order to stimulate mutual benefits;
- × to establish collaborations with private sector and hospitals in various and individual forms of **public-private partnership**;
- × to **educate PhD students and train postdoctoral researchers** with a view to the future of Systems Biology.



SystemsX.ch: A simple Society

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SWISS NATIONAL SCIENCE FOUNDATION

FMI Friedrich Miescher Institute
for Biomedical Research

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

PAUL SCHERRER INSTITUT

PSI



University of Zurich



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Swiss Institute of
Bioinformatics

University of Fribourg

12 partner institutions

EPFL

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Unil

UNIL | Université de Lausanne

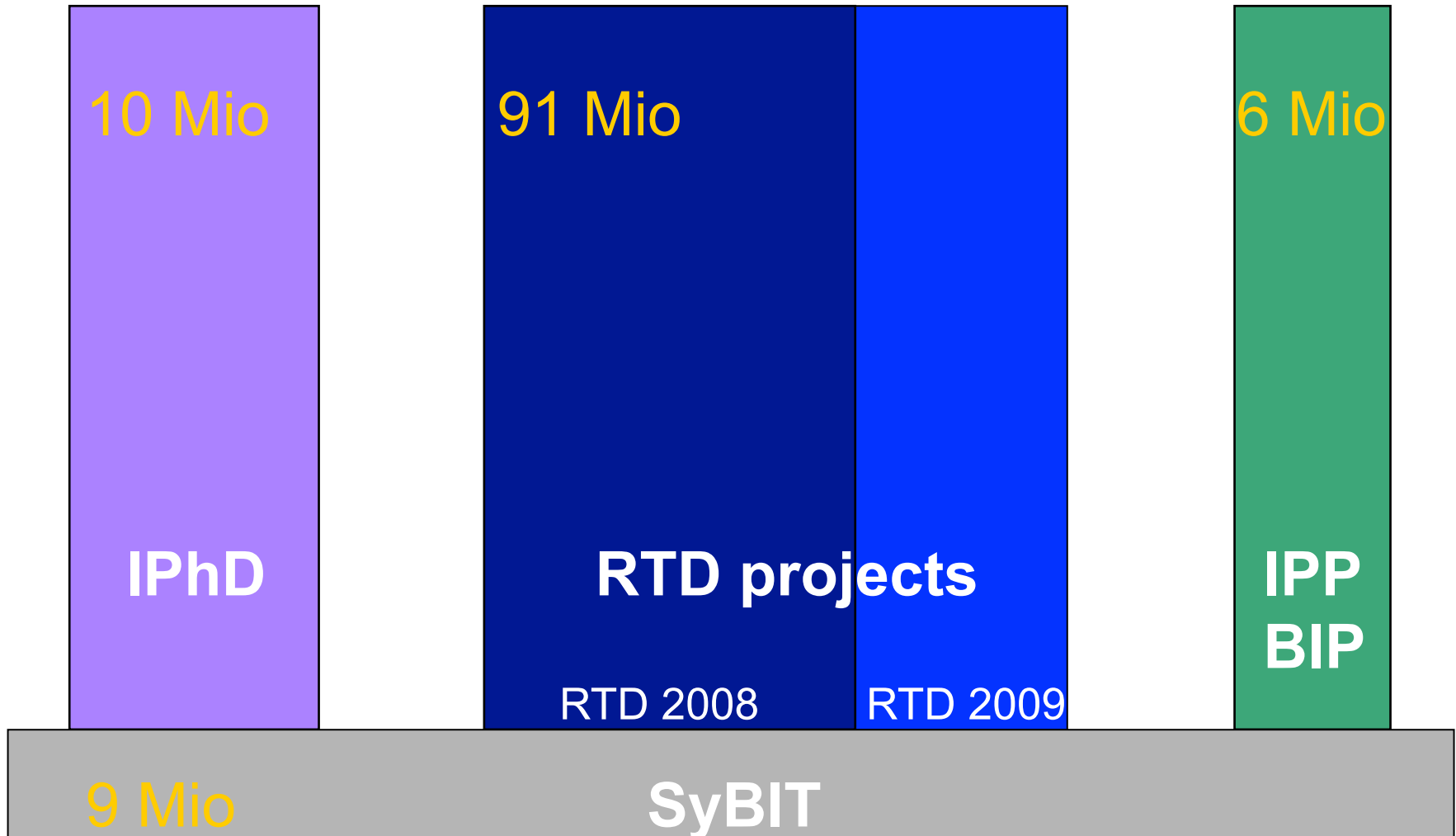
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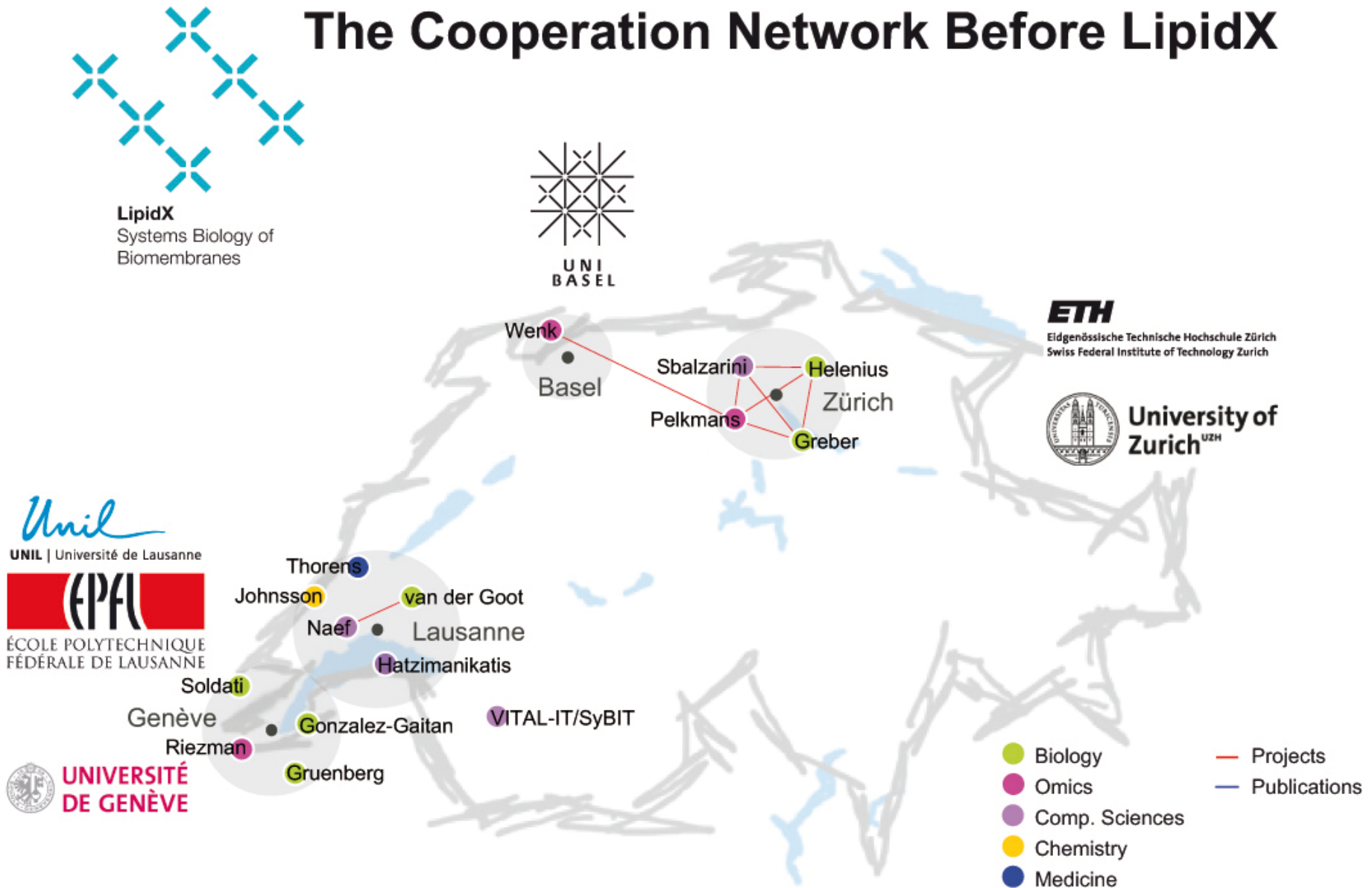
The Swiss Initiative in Systems Biology

Implementation of SystemsX.ch: Project types 2008-2012



Impact of SystemsX.ch

The Cooperation Network Before LipidX



Education

- About 50 IPhD students with two mentors from different disciplines
- Some 230 PhD students in the 14 RTD projects
- More than 200 postdocs in 14 RTD projects

Career track of alumni (> 60):

- 11 are on an academic career track
(group leader, assistant prof)
- 23 went as postdocs to leading international systems biology programs (Harvard, Stanford, Tübingen, Purdue, Riken, UCSD, ...)
- 17 went to industry (different levels)
- 2 built their own business
- others mostly in other academic positions



ERASysAPP: Systems Biology Application

A new ERA-NET on Translational Systems Biology and Applications

*FP7-ERANET-2012-RTD - KBBE.2012.3.6-01:
Systems Biology – ERANET*

Consortium:

16 partners from 13 EU Member States:

Germany (coordination Pt Jülich), Luxembourg, Spain, Sweden, Iceland,
Switzerland, Latvia, The Netherlands, Estonia, Norway,
Romania, Cyprus, Sweden, France

Intended duration:

January 1st, 2013 till December 31st, 2015

Budget:

€ 1'999'862

ERA = European Research Area



Summary SystemsX.ch 2008-2012

- × SystemsX.ch was formed as a partnership venture
- × Federal Funds: **CHF 120 mio** (2008-12) + **CHF 100 mio** (2013-16) plus **CHF 120 mio (+ 100 mio)** «Own Contributions» (resources made available by the SystemsX.ch partner institutions)
- × **12 Swiss partner** institutions: universities & research institutions
- × 6 completed calls for proposals (plus several intermediate 'invitations')
- × **300** submitted **proposals**
- × **131 projects** approved by rigorous peer review (in collaboration with the SNSF)
- × about **300 research groups** and more than **1'000 scientists**
- × established good working relation with the SNSF, SERI
- × established a framework that shows how Switzerland can support and manage large science programs



Education, Research and Innovation (ERI): 2008-2011; 2012; 2013-2016

1st phase

initiation phase
CHF 100 Mio

2008 | 2009 | 2010 | 2011

ERI 2008-2011

Message about
„Education, Research,
and Innovation“
2008-2011

Leap year
„extension
1st phase“
CHF 20.7 Mio

2012

ERI 2012

Message
about
„Education
Research,
and
Innovation
2012“

2nd phase

consolidation phase
CHF 98.8 Mio

2013 | 2014 | 2015 | 2016

ERI 2013-2016

Message about
„Education, Research,
and Innovation“
2013-2016





Prof. Lucas Pelkmans
Chairman SEB
Institute of Molecular Life Sciences
University of Zurich
[lucas.pelkmans\(at\)imls.uzh.ch](mailto:lucas.pelkmans(at)imls.uzh.ch)



Prof. Rudolf Aebersold
Institute of Molecular Systems Biology
ETH Zurich
[aegersold\(at\)imsb.biol.ethz.ch](mailto:aegersold(at)imsb.biol.ethz.ch)



Prof. Christian Mazza
University of Fribourg, Pérolles
[christian.mazza\(at\)unifr.ch](mailto:christian.mazza(at)unifr.ch)



Prof. Olivier Michielin
Swiss Institute of Bioinformatics
University of Lausanne
[olivier.michielin\(at\)isb-sib.ch](mailto:olivier.michielin(at)isb-sib.ch)



Prof. Konrad Basler
Institute of Molecular Biology
University of Zurich
[basler\(at\)molbio.unizh.ch](mailto:basler(at)molbio.unizh.ch)



Prof. Marcos González-Gaitán
Department of Biochemistry
University of Geneva
[marcos.gonzalez\(at\)unige.ch](mailto:marcos.gonzalez(at)unige.ch)



Prof. Felix Naef
Computational Systems Biology lab
EPF Lausanne
[felix.naef\(at\)epfl.ch](mailto:felix.naef(at)epfl.ch)



Prof. Erich A. Nigg
Biozentrum
University of Basel
[erich.nigg\(at\)unibas.ch](mailto:erich.nigg(at)unibas.ch)



Prof. Vassily Hatzimanikatis
Laboratory of Computational Systems
Biotechnology
EPF Lausanne
[vassily.hatzimanikatis\(at\)epfl.ch](mailto:vassily.hatzimanikatis(at)epfl.ch)



Prof. Andreas Hierlemann
Department of Biosystems Science and
Engineering (D-BSSE)
ETH Zurich
[andreas.hierlemann\(at\)bsse.ethz.ch](mailto:andreas.hierlemann(at)bsse.ethz.ch)



Prof. Alexandre Reymond
Center for Integrative Genomics
University of Lausanne
[alexandre.reymond\(at\)unil.ch](mailto:alexandre.reymond(at)unil.ch)



Prof. Walter Senn
Institute of Physiology
University of Bern
[wsenn\(at\)cns.unibe.ch](mailto:wsenn(at)cns.unibe.ch)





Prof. Peter Widmayer
Institute for Theoretical Informatics
ETH Zurich
[widmayer\(at\)inf.ethz.ch](mailto:widmayer(at)inf.ethz.ch)



Prof. Ioannis Xenarios
Swiss Institute of Bioinformatics (SIB)
[ioannis.Xenarios\(at\)isb-sib.ch](mailto:ioannis.Xenarios(at)isb-sib.ch)



Prof. Mihaela Zavolan
University of Basel and Swiss Institute
of Bioinformatics
[mihaela.zavolan\(at\)unibas.ch](mailto:mihaela.zavolan(at)unibas.ch)



Thank you for your attention



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FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION

FMI Friedrich Miescher Institute
for Biomedical Research

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

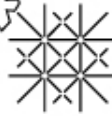
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✧ Questions & Answers

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