SIB Swiss Institute of Bioinformatics
Empowering advances in life sciences and health

Christine Durinx, Associate Director
SWISS-PROT should have been 10 years old in July 1996, but it may disappear on June 30, 1996

Due to funding problems, SWISS-PROT as well as PROSITE, and the ENZYME nomenclature databases will disappear on June 30, 1996 if no solution is found before that date. The ExPASy WWW server and all services associated with it will also shut down. The distribution of the SWISS-2DPAGE database will also be discontinued. Other external databases, WWW services and software packages that depend on SWISS-PROT, PROSITE and ENZYME as well as on the links provided between biomolecular databases will also be severely affected by this problem. Users of services and databases such as ENTREZ, BLOCKS, SRS, Owl, etc. should also be aware that most annotations at the protein level available through these services originate from SWISS-PROT or PROSITE.

While the databases listed above as well as the ExPASy server are used in almost every laboratory doing molecular biology in the world, the funding for these projects has always been very modest (to say the least) and is now, due to procedural problems, going to disappear.

If you are not interested in the details of these problems and you want to send us a email or letter (fax) of support explaining why you think that these resources should stay available to the biological user community, you can skip the following section and jump to the end of this message.
30 March 1998
99 bioinformaticians per million inhabitants

65 research and service groups

Some 800 members

19 institutional members spread across Switzerland
SIB - Empowering advances in life sciences and health

Providing life scientists with a state-of-the-art bioinformatics infrastructure, including resources, expertise and services

Federating world-class researchers

Delivering training in bioinformatics
Resources for the international community

More than 150 high-quality databases and software tools available through www.ExPASy.org
Long-term sustainability of its Core Resources is a priority for SIB

**SIB CORE RESOURCES**

9 Databases, software tools, and core facilities

Funded *long-term* as long as *impact* is high (SAB)

Encourage *innovation* through limited competitive funds for new resources
Cases

1 - UniprotKB/Swiss-Prot
UniProtKB/Swiss-Prot knowledgebase

World-renowned encyclopedia of protein sequences and functional information

www.uniprot.org

- Part of Uniprot (consortium of EBI/SIB/PIR)
- 550,000 manually annotated protein sequences
- 340,000 curated literature references
- A team of over 50 biocurators, developers, IT & support staff in Geneva
- More than 900,000 requests per month on the website
Can we do without (expensive) expert curation?

Imbalance between funds for data generation versus data management

→ Valuable data from expensive research projects is not findable and reusable; research is repeated unnecessarily.
Upcoming Challenges

- Short-term duration of grants reflect the lifetime of research projects
- Competition for grants against (exciting) research proposals
- Agencies fund creation but not maintenance/renewal of resources

Even a temporary loss of funding would result in losing experienced staff and lead to cuts in several important activities
Cases

2 - Vital-IT
Vital-IT – Bioinformatics Competence Centre

Vital-IT provides

- competence centre to support research in areas ranging from sequence analysis, over molecular modelling, to image processing
- expertise in data management, biological data analysis, software development, web technology and trans-disciplinary research.

More than 8,000,000 CPU hours consumed per year

18 expert embedded bioinformaticians providing on-site data analysis services to life scientists and clinicians

More than 20,000,000 jobs run by users per year

Author of, or acknowledged in:

- 87 publications in 2015
- 22 in Science or Nature over the last 5 years

730 active users of Vital-IT in 2015

6 Petabytes of storage capacity

7,000 CPUs in 2015

www.vital-it.ch
Examples of R&D enabled through Vital-IT

• Vital-IT supports the genomics and epidemiological surveillance of influenza through OpenFluDB and EMPRES-i for the FAO.

• Training and education of reference laboratories in the world through e-learning.

• Vital-IT developed the algorithm behind the Non-Invasive Prenatal Diagnostic test for the detection of trisomy and chromosomal abnormalities by NGS in pregnant mothers.
Funding Vital-IT – the comfort of a free lunch

![Graph showing the growth of Funding, Compute cores, and Users over the years 2009 to 2014. The Funding line shows a 4x increase, Compute cores a 5.5x increase, and Users a 3.7x increase. The graph includes labels for each axis: CHF, Year, and CPU number or storage (TB).]
In Summary

Long-term sustainability is part of SIB’s genes

Sustaining our Core Resources requires a perpetual quest – a long-term solution MUST be found

Open Access does not mean Free Lunch – someone has to pay for it - Who?
Thank you for your attention