

Standards – a modeller's point of view

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Standards – what I think, is a modeller's point of view

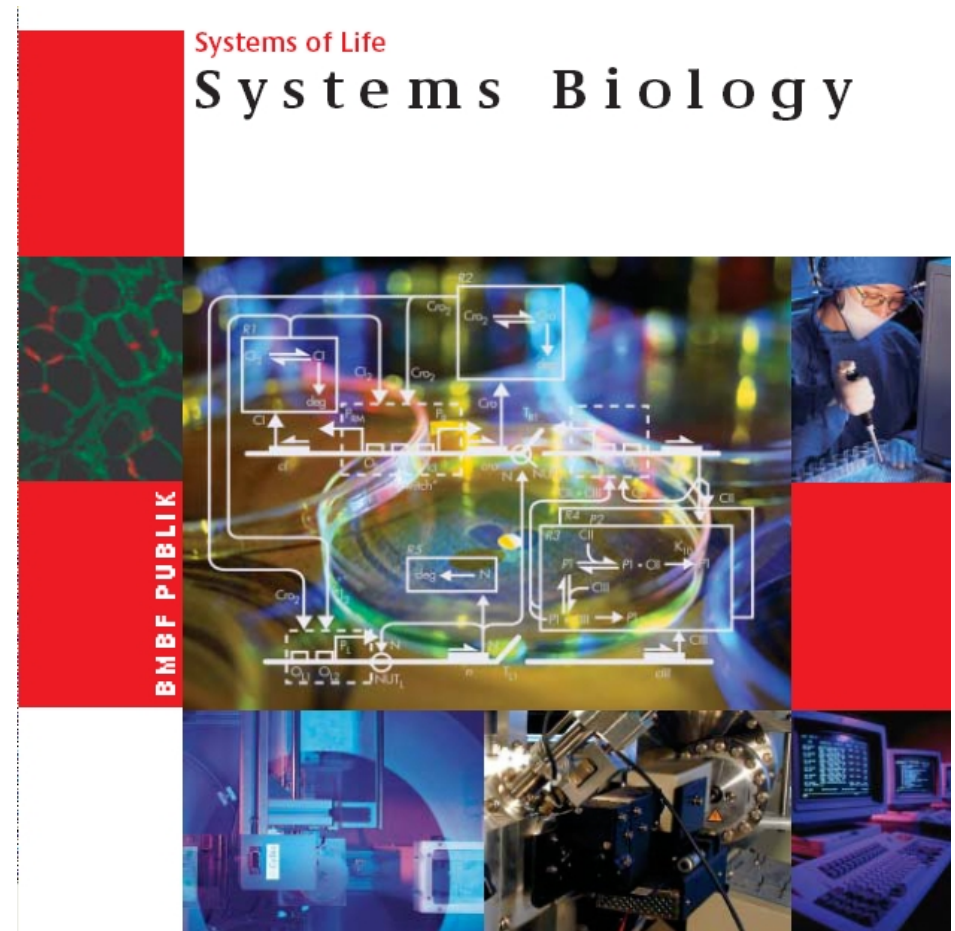
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Overview

- Standards in German SB Programs (e.g. Virtual Liver)
- The modeller's point of view (using standards)
- The software developer's point of view (implementing standards)

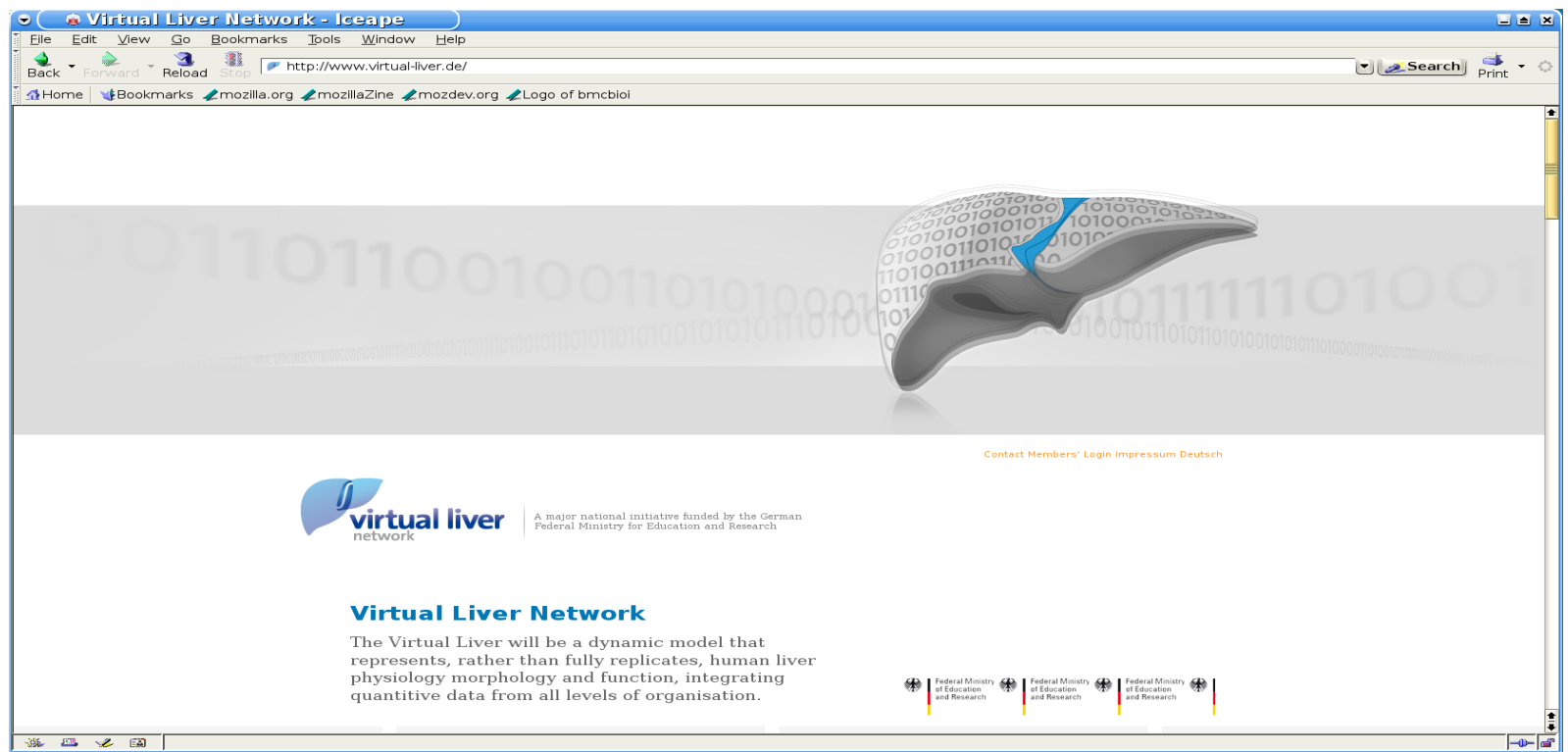
Major programs in Systems Biology in Germany

- Virtual Liver Network (until 2015)
- ForSys Centres (until Dec 2011)
- SysMO II (until 2013)
- GerontoSys (until 2014)
- MedSys (until 2013)
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Example: Virtual Liver Network

- SBML usage is demanded for all models (where is this is possible)
- Data management systems that allow storage and retrieval of experimental data and models are obligatory
- Free software is becoming mandatory (reproduction of results)



Contribution to international standards:

- spatial models, but also imaging data

- sequencing, especially NGS

- quantitative proteomics

- metabolomics

- FACS

- immunoblots

- statistics

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-> Once again, this costs money!

The modeller's point of view (not really mine....)

- I am interested in creating and analysing models, using all kinds of different software, not in standards like SBML
- I want to use functioning software and not having to care about bugs, e.g. in file exchange
- SBML is crap, because it does not understand, how real multi-compartment modeling works
- Most software is faulty, because I get strange results, if I import SBML files

The modeller's point of view - consequences

- SBML and standards like it are absolutely essential for modern computational research
- SBML compatibility in software is not simply a little nice add-on to state on the feature list -> if it does not work, this will impact research with the software quite a bit
- Training should NOT be aimed at modellers etc., but at software developers -> there are problems with e.g. multi-compartment handling

The software developer's point of view

- SBML and standards like it are absolutely essential for modern computational research and therefore essential to follow
- Keeping up with standards and annotations is not simple and really time-consuming (for a project of the size of COPASI ca. 0.5 FTE)
- There is really no source for financing this type of work on the software developers side. Even though, it is always possible to squeeze in small work, this is not anymore possible with the scale this is getting at.

The software developer's point of view - consequences

- In the future, we have to plan probably 1 FTE for keeping up with standards and annotations
- We have to somehow generate pressure on funding agencies that this maintenance and development work is integral part of modern computational research and needs funding