

Bioinformatics

A Swiss Perspective

Biological research and recent technological advances have resulted in an enormous increase in research data that require large storage capacities, powerful computing resources, and accurate data analysis algorithms. Bioinformatics is the field that provides these resources to life science researchers.

The Swiss Institute of Bioinformatics (SIB), which has celebrated its 10th anniversary in 2008, is an institution of national importance, recognized worldwide for its state-of-the-art work. Organized as a federation of bioinformatics research groups from Swiss universities and research institutes, the SIB provides services to the life science community that are highly appreciated worldwide, and coordinates research and education in bioinformatics nationwide. The SIB plays a central role in life science research both in Switzerland and abroad by developing extensive and high-quality bioinformatics resources that are essential for all life scientists. Knowledge developed by SIB members in areas such as genomics, proteomics, and systems biology is directly transformed by academia and industry into innovative solutions to improve global health. Such an astounding concentration of talent in a given field is unusual and unique in Switzerland.

This book provides an insight into some of the key areas of activity in bioinformatics in Switzerland. With contributions from SIB members, it covers both research work and major infrastructure efforts in genome and gene expression analysis, investigations on proteins and proteomes, evolutionary bioinformatics, and modeling of biological systems.

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