

# Swiss Proteomics Society

## 2006 Interactive Training Initiative



### Applied Proteomics – Tips & Tricks

on-site applied training course with international debriefing workshop

#### Training Course Proposal Form

Proposed Title : <b>Bioinformatics for proteome analysis</b>
Brief Description (100 words max.):  This training is composed of 4 complementary and sequential courses. They will be done in 2 days and will span databases contents, 2-DE gel analysis and publishing, and mass spectra data analysis. See details below.
Location (Institute name and town): Swiss Institute of Bioinformatics, Geneva
Maximum number of participants (2-10): 5-10
Duration (1-5 days): 2
When (proposed dates between September 18 and November 24, 2006): November, 6-7
Postal address: Swiss Institute of Bioinformatics CMU, 1 Michel-Servet CH-1211 Geneva 4 - Switzerland
Phone: (+41 22) 379 50 50

**Part I – The protein sequence databases and the UniProtKB/Swiss-Prot annotation of protein diversity: how to use them in the most efficient way**

Brief Description (100 words max.): This tutorial session (first day) will allow participants to understand where the protein sequences come from, how there are integrated in the different protein sequence databases (UniProtKB, NCBI nr...) and what are the pros and cons depending upon the information to be extracted. A special emphasis will be laid on the use of the protein diversity annotation (including the annotation of post-translational events) of the UniProtKB/Swiss-Prot protein knowledgebase.

Duration (1-5 days): 1 day

Organising laboratory: Swiss-Prot Group, Swiss Institute of Bioinformatics, Geneva

Contact person: Marie-Claude Blatter and Nathalie Farriol Mathis

Email: Marie-Claude.Blatter@isb-sib.ch, Nathalie.Farriol-Mathis@isb-sib.ch

**Part II - How to analyse 2-DE gel images**

Brief Description (100 words max.): In this tutorial, participants will learn how to make the best out of a 2-DE gel analysis software. The practicals will be done with the ImageMaster 2D Platinum software (powered by Melanie, which is developed by the Proteome Informatics Group at the Swiss Institute of Bioinformatics). The following topics will be seen and practised:

- General overview of ImageMaster and its latest updates
- First steps in a 2-DE software (visualising gels, data navigation, spot detection, matching gels)
- Analysing populations of gels (inter and intra class analysis, statistical values)
- Annotating information on 2-DE gels
- DIGE analysis

Duration (1-5 days): 2 hours

Organising laboratory: Proteome Informatics Group, Swiss Institute of Bioinformatics, Geneva

Contact person: Patricia Palagi

Email: Patricia.Palagi@isb-sib.ch

**Part III – Publishing 2-DE data**

Brief Description (100 words max.): This tutorial session will allow participants to publish their own 2-DE data on the Web, by using the Make 2D-DB package. The participants are asked to come with their own gel image and list of identified spots, and by the end of the day they will have their database on-line.

Duration (1-5 days): 2 hours

Organising laboratory: Proteome Informatics Group, Swiss Institute of Bioinformatics, Geneva

Contact person: Christine Hoogland

Email: [Christine.Hoogland@isb-sib.ch](mailto:Christine.Hoogland@isb-sib.ch)

**Part IV – Protein identification with mass spectra data**

Brief Description (100 words max.): In this tutorial, participants will learn how to identify proteins with mass spectra data by using the software Mascot and Phenyx. The level of the course will be adapted to level of the attendees. The following topics will be seen and practised:

- General overview of bioinformatics tools for protein identification with mass spectra data
- Introduction to Mascot and Phenyx
- Interpretation of Mascot and Phenyx results
- Interpretation of PTM predictions in Mascot and Phenyx results by comparison with the UniProtKB/Swiss-Prot database

Duration (1-5 days): 1/2 day

Organising laboratory: Proteome Informatics Group, Swiss Institute of Bioinformatics, Geneva

Contact person: Patricia Palagi

Email: [Patricia.Palagi@isb-sib.ch](mailto:Patricia.Palagi@isb-sib.ch)