

## Case study: Implementing SLims in a Swiss research laboratory for the distribution of investigational tools

### SLims Added Value

- *SLims greatly simplifies the management of the fly line repository*  
SLims' biobanking LIMS features are used to organize the individual fly lines (see our BioBank page about what SLims offers to the biobanking community).

A systematic correlation of plasmids and fly lines was set up and organized to reflect the real location of the strains in animal rooms and the plasmids in freezer compartments. This layout serves also as input and template for the information displayed in the online catalogue.

- *SLims helps the fly stock keepers with registration of stock replicates*

Due to the short life span of flies, fly line strains require regular replication. When a new generation of flies has eclosed, it is transferred to a new culture vial for the fly stock to reproduce. With some 3,000 stocks needed to be propagated per month ("fly flipping"), this is no small undertaking. The fly stock keepers are helped with fly flipping by a SLims scanner macro, a small program that simplifies repetitive actions, making it very handy to use as its operation requires neither mouse nor keyboard. Before flipping a fly stock, the stock keepers scan the fly strain barcode present on the vial, SLims identifies the vial, and the respective strain and triggers the printing of a new culture vial label. A built-in QC mechanism helps making sure that a particular stock is not transferred twice, nor forgotten, otherwise, alerts inform the stock keepers of potential mistakes. The macro also promotes the old stocks and changes them into a backup status in the database.

### Background

Technical developments have been instrumental to new discoveries in fundamental science using *Drosophila* fly genetics. With the breakthrough of a chromosomal position-controlled gene integration system, comparative expression experiments have been taken to a new level. Due to the experiments carried out in defined chromosomal environments, over-expression of genes have become tremendously more controlled, comparable and efficient. They have become a true alternative to mutational analysis for basic research projects.



### Client Need

The fly ORFeome project was initiated by the laboratories of Prof. Konrad Basler (University of Zurich) and Prof. Jussi Taipale (University of Helsinki and Karolinska Institutet Stockholm). Through this project, a fly strain (*Drosophila melanogaster*) repository of state-of-the-art gene over-expression strains, the so-called "ORFeome" library has been created. It has been made available to the *Drosophila* science community through FlyORF. To handle the large demand for those precious fly lines, the research laboratory of Prof. Konrad Basler was in need of a solution to manage the fly collection for the science community using a professional data management system.

**FlyORF**  
Zurich ORFeome Project

## SLims Added Value

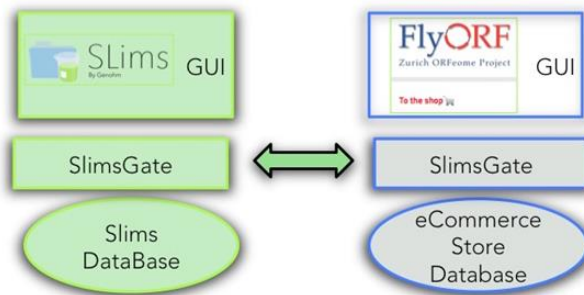
- The online store offers a fly line catalogue to the fly research community*

The FlyORF online store is based on an eCommerce platform and was set up to match the user expectation of an online catalogue. The catalogue is publicly visible; in order to obtain a particular fly line, a scientist must register through a login window. Like in any typical online store, the shopping cart facilitates the ordering, shipping, and billing process.
- SLims, in dynamic integration with the online store, is set up to communicate with the online store at several levels*

Only a subset of the actual fly lines (the available ORFeome lines) are displayed in the online catalogue. The visible fly line information is a dynamic representation of the fly repository and its annotated data, controlled within SLims' status fields for individual fly stocks. When a fly line needs to be quarantined due to health issues, a simple change of status in SLims will be immediately reflected in the online store catalogue thanks to the communication of SLims with the store database. In this way potential customers can see which fly lines are presently available for shipment and which ones cannot be obtained. When new fly lines are added to the SLims repository, those lines are also published in the catalogue as soon as their status is set to "Available".

Thus, SLims' integration of the online store streamlines the stock keepers' work because it allows an overview of all fly orders and control of the availability of both fly lines and the displayed catalogue information, all located exclusively within SLims.

Now in production, SLims coordinates the fly line orders with the fly stock maintenance, and manages changes in the repository composition.



## About Genohm

Genohm is a Swiss company with offices in Lausanne (Switzerland), Ghent (Belgium) and in Durham, NC (USA). The company has developed SLims, a laboratory software automation suite. SLims provides laboratories with one integrated LIMS + ELN environment that tracks data and samples from the original sample shipment down to the result from lab machines and in-silico analysis pipelines. It fully accommodates the needs of any research lab, NGS lab, service facility, Biobank or QC lab.

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## SLims solution

Genohm's LIMS+ELN management system SLims was chosen to organize:

- The fly strain repository for several thousand fly stocks at the University of Zürich
- An integrated online store, based on an eCommerce platform:
  - Displays a catalogue of the fly strains and additional details
  - Provides easy and advanced searching possibilities of the fly catalogue
  - Manages ordering, shipping and payment procedures for fly orders/deliveries

"SLims is the perfect Lab Companion for your Research Lab"

