

# Additional Information for CASIMIR meeting in Corfu

## EUCOMM DATABASE

### (i) BioMart

BioMart is a generic query optimised data management system developed at the EBI, originally as part of the data mining requirements of Ensembl (<http://www.biomart.org>). I have used this system to prepare prototypes for several mouse resources including a high level view of the **KOMP/EUCOMM** pipeline status of genes at the Sanger, **Europhenome** phenotypic data, **Eurexpress** in situ expression data and EMMA mouse mutant strain archive. The advantage of BioMart is that all these resources can be hosted at separate institution but a single web portal used to query them in an integrated manner. Integrated queries are possible where these data repositories share common identifiers such as Ensembl or MGI stable IDs. I have set up a test server at <http://demo.biomart.org/biomart/martview> to show these resources integrated with the existing **Ensembl mouse gene and variation** marts.

The screenshot shows the BioMart MartView interface. The top navigation bar includes 'New', 'Count', 'Results', 'XML', 'Part', and 'Help'. The main content area displays a table of results for the 'EUCOMM' dataset. The table has the following columns: External link, Allele request status, Gene symbol, Ensembl stable ID, Request source, Ensembl Gene ID, and Ensembl Transcript ID. The results are filtered by 'Request source: EUCOMM'. The table contains 10 rows of data, including entries for genes like Ntn1, Dwb41, and Uba2b.

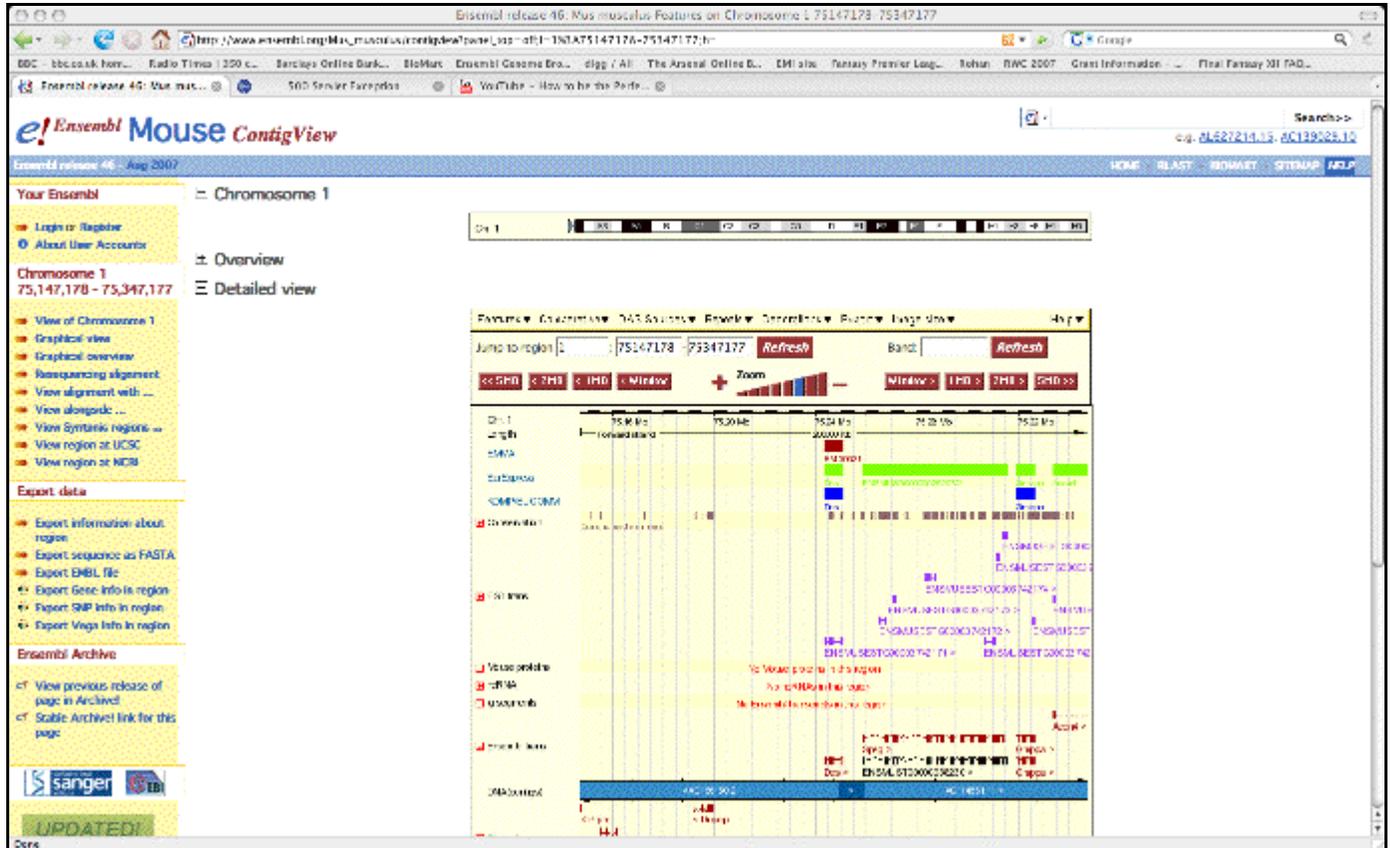
External link	Allele request status	Gene symbol	Ensembl stable ID	Request source	Ensembl Gene ID	Ensembl Transcript ID
21468	Vega: Annotation: Requested	4921531148x	ENSMUSG000000001103	EUCOMM	ENSMUSG000000001103	ENSMUST000000001103
21469	Vega: Annotation: Requested	4921531149x	ENSMUSG000000001104	EUCOMM	ENSMUSG000000001104	ENSMUST000000001104
21470	Vega: Annotation: Complete	OTTU08900000002115	ENSMUSG000000001105	EUCOMM	ENSMUSG000000001105	ENSMUST000000001105
21482	Vega: Annotation: Requested	Tnfr1	ENSMUSG000000002538	EUCOMM	ENSMUSG000000002538	ENSMUST000000002538
17482	Vega: Annotation: Complete	OTTU089000000021026	ENSMUSG000000001748	EUCOMM	ENSMUSG000000001748	ENSMUST000000001748
83130	Vega: Annotation: Requested	Ntn1b	ENSMUSG000000001394	EUCOMM	ENSMUSG000000001394	ENSMUST000000001394
83834	Vega: Annotation: Complete	Dwb41	ENSMUSG000000001773	EUCOMM	ENSMUSG000000001773	ENSMUST000000001773
83835	Vega: Annotation: Complete	Dwb41	ENSMUSG000000001773	EUCOMM	ENSMUSG000000001773	ENSMUST000000001773
21420	Vega: Annotation: Requested	Uba2b	ENSMUSG000000001430	EUCOMM	ENSMUSG000000001430	ENSMUST000000001430
21640	Vega: Annotation: Requested	Uba2b	ENSMUSG000000001430	EUCOMM	ENSMUSG000000001430	ENSMUST000000001430

As part of an FP7 grant application I have also helped Vivek Iyer (Bill Skarnes group) to prepare a more extensive mart interface to the **GENETRAP** production pipeline of the ES cell lines including those produced for EUCOMM. This is also shown on the <http://demo.biomart.org/biomart/martview> interface.

I will be presenting this work on the *thursday afternoon* at the Casimir Corfu meeting as part of the **WP5** section

## (ii) DAS

BioMart also acts as an easily configurable DAS server. This allows integrated graphical presentation of mouse resource data on DAS clients such as the Ensembl web browser [http://www.ensembl.org/Mus\\_musculus/contigview?c=1:75247177.5;w=200000](http://www.ensembl.org/Mus_musculus/contigview?c=1:75247177.5;w=200000). From contigView you can select **Manage Sources** in the **DAS Sources** menu and use the server at <http://demo.biomart.org/biomart/das> to select source such as **EurExpress**, **EUCOMM** or **EMMA** to display as a track in **Ensembl contigView**.

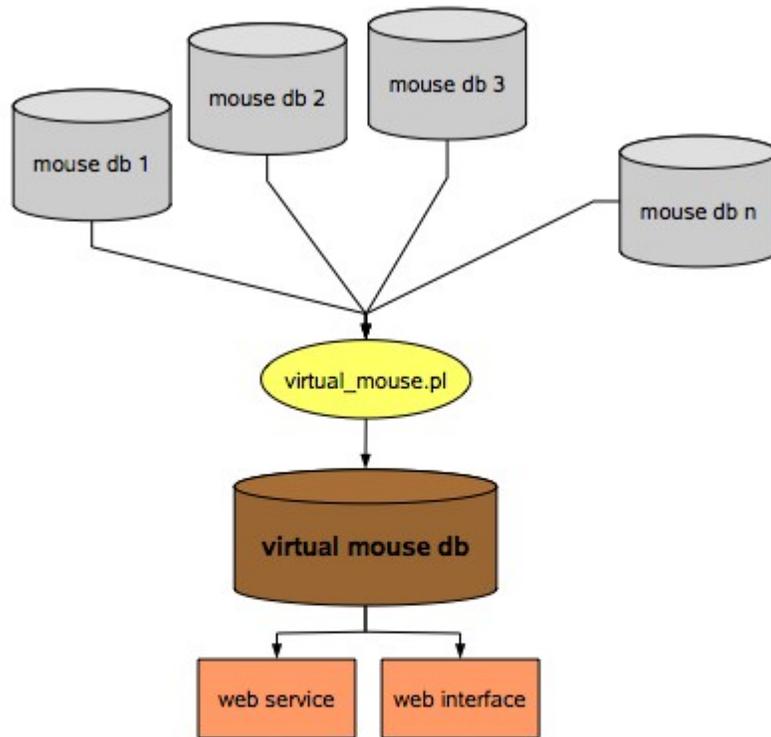


**Damian Smedley** (*Ensembl mouse informatics project leader*)

## VIRTUAL MOUSE

### (i) Virtual Mouse

The virtual mouse displays the mean value of all values of all mice ever determined on the world and whose values were added to databases accessible via webservice. The first picture shows a first draft of the virtual mouse web page.



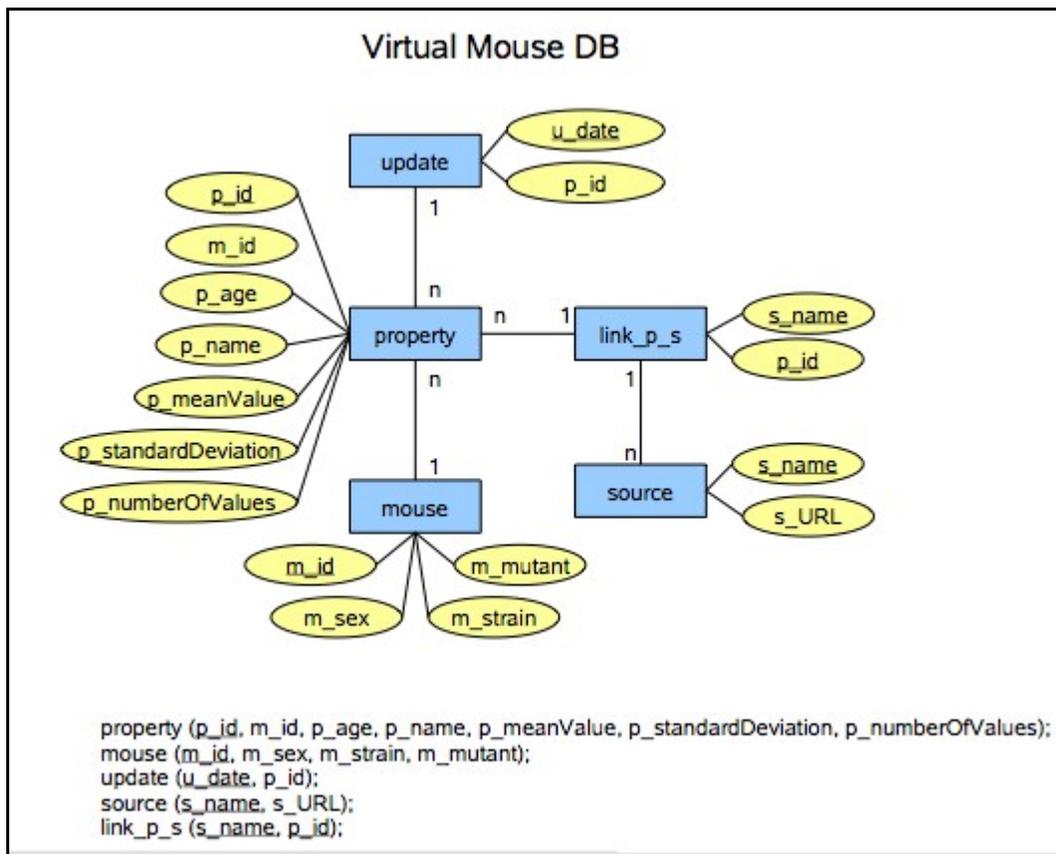
**Concept of the Virtual Mouse**

Arrows mark the flow of data.

The script 'virtual\_mouse.pl' has the following features:

- SOAP client: collecting mouse data from external databases via web service
- statistical analysis (calculation of mean value, standard deviation etc)
- feeding the database 'virtual mouse db' with results of statistical analysis.

The initial draft of the simple database structure of the virtual mouse is shown in the next picture.



The virtual mouse will collect data for a particular parameter from all databases accessible and then calculates the mean value of it and displays this value. This value can then be used as a reference to a particular inbred mouse line or a particular mouse mutant. As the virtual mouse value of a given parameter is not so much depending of a single measurement, it is most likely a very robust value. It will allow for example the comparisons of values of a given inbred mouse strain measured at different laboratories in the world and could thereby reveal the robustness of a given parameter for mouse phenotyping.

The virtual mouse project is also a prototype that will tackle the basic problems of database interactions and tools like GO terms, Procedures and Values and so forth have to be transmitted in a standardized form in order to be able to combine the values from various phenotyping databases.

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