

"From model organisms to human disease and back again: data warehousing for modern biology"

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Abstract:

Model organisms are important for biomedical research in two main ways: 1) they allow experiments to be carried out that would be difficult or impossible in humans and so allow us to find out about basic biological processes; 2) they can assist biomedical research more directly by providing models for human diseases.

Model organism databases provide access to high quality curated data but large scale data integration is still a challenge in modern biology. The InterMine data integration platform addresses this challenge. InterMine will be described, as well as a collaboration in which almost all the major animal model organism databases have built interMine databases. The object of the collaboration is to provide better tools for the model organism communities as well as improved interoperability between the different databases.

To complement the above we have built a pilot human database, metabolicMine, and will soon start building a general human database.

By allowing these different databases to interoperate we hope to improve the ease with which biomedical researchers can exploit model organisms.