

New components to MIAMExpress -
easing submission and visualization of MIAME compliant experiments.

Catherine Leroy, Pierre Marguerite, Bhuwan Tiwari, Niran Abeygunawardena, Sergio Contrino, Anna Farne, Ele Holloway, Gaurab Mukherjee, Helen Parkinson, Tim Rayner, Philippe Rocca-Serra, Susanna-Assunta Sansone, Ugis Sarkans, Alvis Brazma and Mohammadreza Shojatalab

MIAMExpress Team, Microarray Informatics Group, EBI-EMBL,
Wellcome Trust Genome Campus, CB10 1SD Hinxton, United Kingdom.

MIAMExpress is a microarray data annotation and submission tool, which allows entry of MIAME compliant information and exports MAGE-ML files [1]. The tool is widely used as the submission tool to ArrayExpress database, and data from over 4000 hybridisations have been entered this way. Here we present three new modules for MIAMExpress tool – visualisation module, batch-upload module, and ADF to MAGE-ML file converter module. These will be implemented as a part of the next MIAMExpress release.

A 'Visualization Module' will allow users to navigate their submission in a very intuitive manner. The tool, relying on Graphviz, converts results from SQL queries into graphs. Samples, Extracts, Labeled Extracts and Hybridizations are shown as boxes, directed arrows show the relationships between elements. Those are hyperlinked back to the relevant MIAMExpress web forms allowing seamless access for altering/completing submission.

A 'Batch-upload Module' will allow to bridge the usability gap that currently exists between small-medium sized experiments and large scale projects submissions. Web service technology will be integrated in a java client allowing a spreadsheet like display of the various layers of information necessary to describe a microarray experiment in MIAMExpress. Providing connexion to MIAMExpress database will ensure that updated controlled vocabulary can be used throughout the submission process.

An 'ADF-MAGE-ML converter Standalone Module' will allow creation of Array Design Files (ADF) and conversion to MAGE-ML documents and vice versa, in batch mode or one at a time. The specification has been extended to provide support for other DNA microarray applications ranging from gene expression to comparative genomic hybridization and chromatin binding site identification.

All 3 new modules will be released with MIAMExpress version 2.0 and will be implemented in all community specific versions of the tool: Tox-MIAMExpress and At-MIAMExpress.

(<http://www.ebi.ac.uk/miamexpress/>)

References:

1. ArrayExpress - a public repository for microarray gene expression data at the EBI. (2003) Brazma, A. et al.; Nucleic Acids Res. 31(1):68-71.