

EMERALD – Enhancing Microarray Data Quality

The EMERALD Consortium (<http://www.microarray-quality.org/index.html>)

EMERALD is a European Coordination Action to develop measures to improve microarray data quality.

Microarray-based functional genomics technology suffers from a lack of standards. We aim to establish and disseminate quality metrics, microarray standards and best laboratory practices throughout the European microarray community. We will analyse quality control metrics on existing microarray data, and add Normalisation and Transformation ontology to MGED to allow a structured recording of data pre-processing. We hope to initiate European efforts to assess the merits of hybridisation standards for QC, and launch procedures to certify selected standards as European Reference Material. We will unite the different microarray technology stakeholders in a series of topical workshops to address the development and implementation of QA/QC in research, service, diagnostics, data pre-processing and archiving, computational datamining, new technology development and its exploitation. We will strive toward a wide community acceptance of 'best practices'. We will assess how common best practice denominators can be established to standardise QA in various experimental settings and applications. In a pilot implementation of QA/QC we will assess the impact on data quality and coherence. A web portal at EBI (<http://www.microarray-quality.org/index.html>) will present a wide network of contacts, and serve to disseminate protocols, data sets, the use of control material, etc. We will assist individual microarray users in their transfer to such common practices. The results and experiences from transcriptome microarray QA/QC will create a cornerstone for a systems biology based life science, and cross-fertilise and advance the maturation process of emerging applications of microarray technology.