

RReportGenerator: Automatic reports from routine statistical analysis using R.

Wolfgang Raffelsberger, Luc Mouliner, David Kieffer, Yannick Krause and Olivier Poch

Laboratoire de BioInformatique et Génomique Intégratives (LBGI), IGBMC,
1 rue Laurent Fries, 67404 Illkirch-Strasbourg, France

With RReportGenerator we have developed a tool dedicated to performing automatic routine statistical analysis using R via a graphical user interface (GUI) in a highly user-friendly way that can be run on Windows and Linux platforms. The program is freely available under <http://www-bio3d-igbmc.u-strasbg.fr/~wraff>.

Since the command-line syntax of R is very powerful but difficult to access for non-statisticians, we have developed a simple graphical interface designed for routine execution of predefined "analysis scenarios" for a given problem (written as Sweave code). The key function of RReportGenerator consists in automatically generating a pdf-report combining results from statistical analysis, tables and figures. Depending on the analysis scenario chosen, reports can be accompanied by supplemental data-sets for exporting results to other programs, too.

At this point several applications ("analysis scenarios") for quality control and low-level data analysis in the fields of transcription profiling (e.g. extensive QC for Affymetrix GeneChips or QC & data normalization of printed arrays), CGH-analysis (simultaneous comparison using multiple segmentation approaches) and transfected cell array (TCA) platforms have been developed and are getting further enhanced. For example, use of RReportGenerator may help technology platforms considerably as it produces automatically well documented analysis reports in a standardized format for transferring QC results and assay data to other research teams.

A special function of this GUI allows accessing directly the most recent versions of the distributed analysis scenarios and facilitates using automatically the most recent analysis scenarios. Finally, our automatic analysis platform is open to distribute contributed and documented analysis scenarios from the R community.