# Factor Analysis for Multiple Testing (FAMT) : an R package for large-scale significance testing under dependence

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The method proposed in this package takes into account the impact of dependence on the multiple testing procedures for high-throughput data. The common information shared by all the variables is modelled by a factor analysis structure, as proposed by Friguet *et al.* (2009). New test statistics for general linear contrasts are deduced, taking advantage of the common factor structure to reduce correlation and consequently the variance of error rates. Thus, the False Discovery Proportion is controlled, which is not the case when classical method are used (see for instance Gordon *et al.*, 2007). Moreover, the FAMT method increases the global power, regarding the Non Discovery Rate. In this presentation, the methodology will be applied on genomic data, and compared to other competitive methods, such as the Optimal Discovery Procedure (Storey, 2007).

## References

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