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Methods for Analysis of DNA Methylation

Methylation of DNA can alter DNA activity, by blocking access to the DNA at methylated sites. For example, DNA methylation determines cell-type-specificity. Recent interest in studying DNA methylation arises from the awareness that methylation patterns can change in response to age, disease or environmental exposures. Since DNA methylation can be measured by high-throughput experimental methods, analysts must cope with large data sets, undesired technical biases, and long-range correlations. The presentation will cover many of these issues, and focus on some proposed methods for studying local patterns in methylation, including dimension reduction methods and functional data analysis.