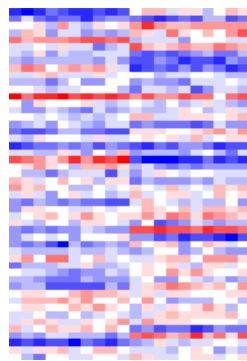


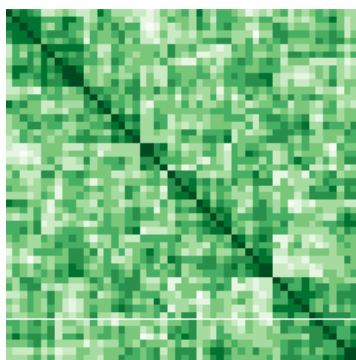
Raw Gene  
Expression Data



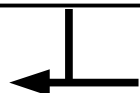
Raw Gene  
Expression Data

Batch Information

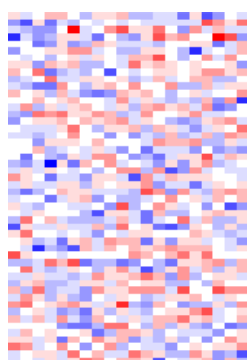
Overall  
Variance-covariance



Covariance



Batch corrected  
Expression



Standard  
Batch Correction

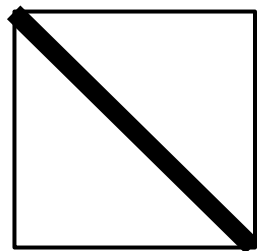
Eigendecomposition

Overall Eigendecomposition

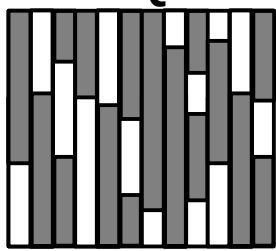
Batch and  
Covariate data  
MLE

Covariate-dependent estimates

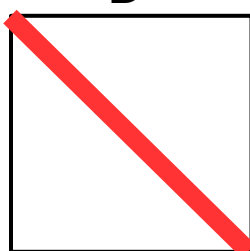
D



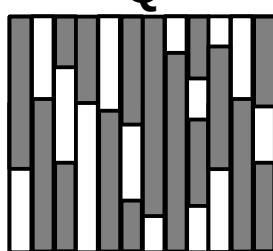
Q



D\*



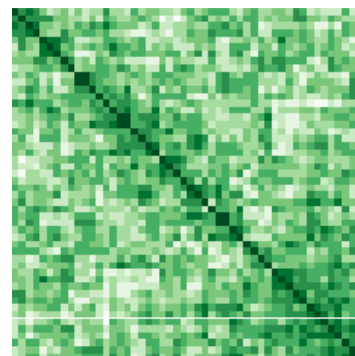
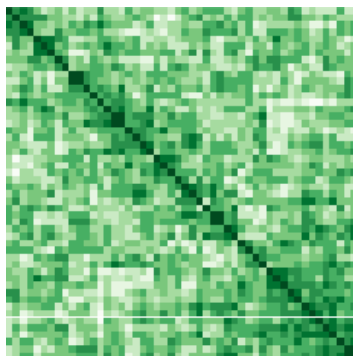
Q



CMA

Fitted values

Batch-corrected  
Variance-covariance



Corrected Co-  
expression