ZHEJIANG CHINESE MEDICAL UNIVERSITY

Seminar

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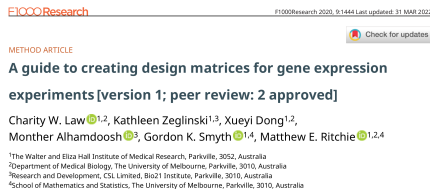2022-07-22

1 RNA-seq analysis

2 Next Schedule

RNA-seq analysis

Literature and Guidances

A guide to creating design matrices for gene expression experiments [version 1; peer review: 2 approved]

Charity W. Law [1,2], Kathleen Zeglinski[1,3], Xueyi Dong[1,2], Monther Alhamdoosh [3], Gordon K. Smyth[1,4], Matthew E. Ritchie [1,2,4]

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Figure 1: design matrix

- test1 you know that you have
- test2 Screenshot
- test3

Analysis route

1. Data packaging
   - Reading in count-data
   - Organising sample information
   - Organising gene annotations
2. Data pre-processing
   - Transformations from the raw-scale
   - Removing genes that are lowly expressed
   - Normalising gene expression distributions
   - Unsupervised clustering of samples
3. Differential expression analysis
   - Creating a design matrix and contrasts
   - Removing heteroscedascity from count data
   - Fitting linear models for comparisons of interest
   - . . .

Next Schedule

Gene informatics analysis

- GEO datasets analysis
- . . .