



```
dds <- DESeqDataSetFromMatrix(countData = cts,  
                              colData = coldata,  
                              design= ~ batch + condition)  
  
dds <- DESeq(dds)  
resultsNames(dds) # lists the coefficients  
res <- results(dds, name="condition_trt_vs_untrt")  
# or to shrink log fold changes association with condition:  
res <- lfcShrink(dds, coef="condition_trt_vs_untrt", type="apeglm")
```

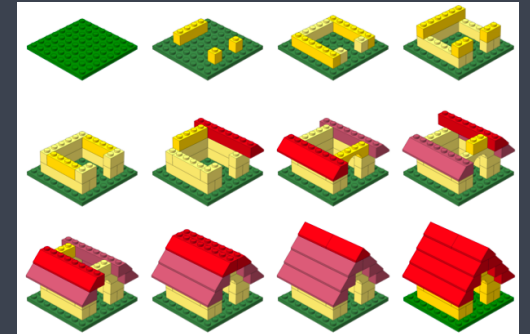
Bulk RNA-seq Analysis Part II

Differential Gene Expression

Harvard Chan Bioinformatics Core

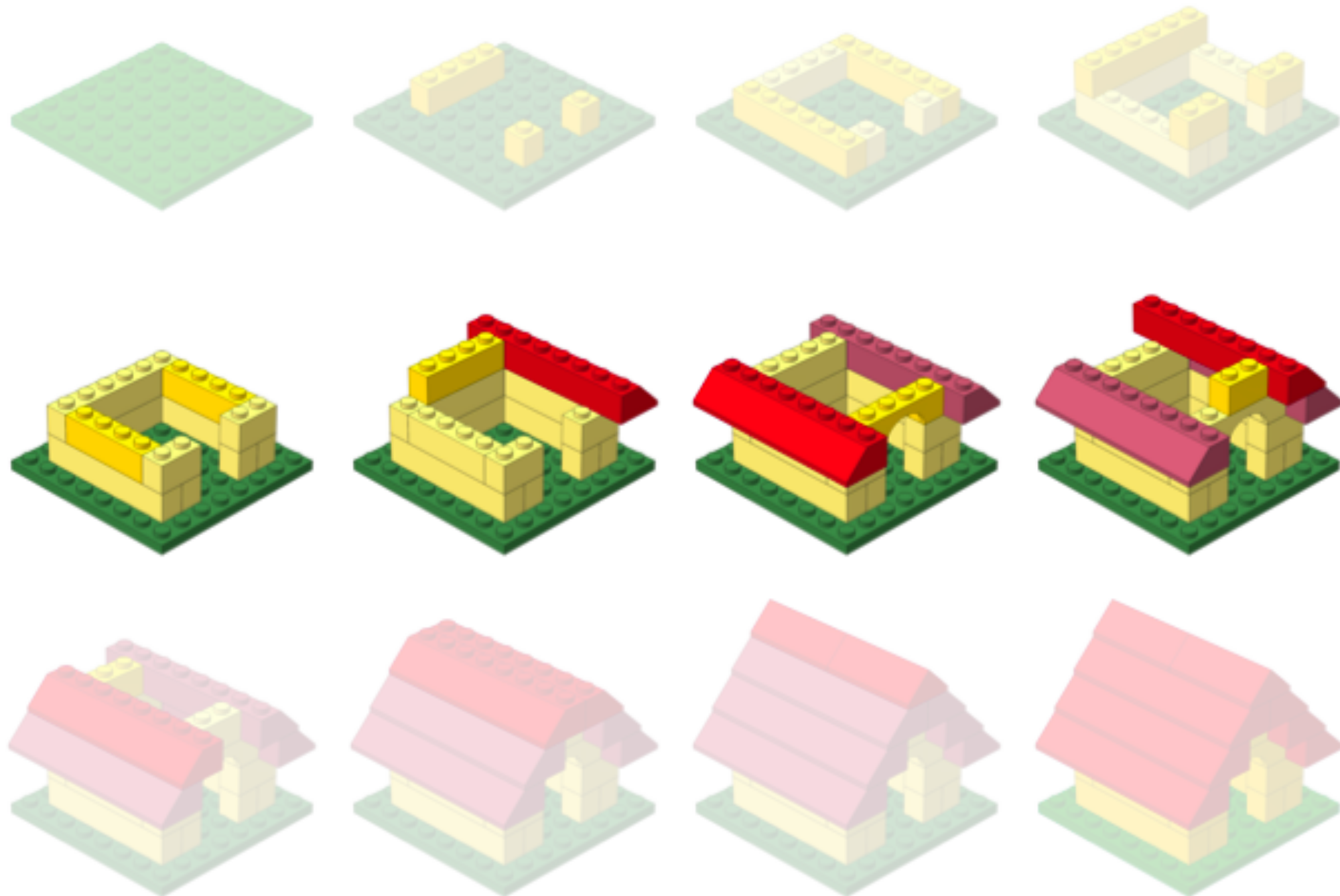
<https://tinyurl.com/hbc-dge-online>

Workshop Scope



Differential Gene Expression analysis

- ✓ Understand the considerations for performing statistical analysis on RNA-seq data
- ✓ Start with gene counts (after alignment and counting)
- ✓ Perform QC on count data
- ✓ Use DESeq2 to perform differential expression analysis on the count data and obtain a list of significantly different genes
- ✓ Visualize results of the analysis
- ✓ Perform functional analysis on the lists of differentially expressed genes



<http://anoved.net/tag/lego/page/3/>

Bioinformatics data analysis

Exit survey

<https://tinyurl.com/DGE-exit-survey>

Office hours

- 30 minute office hours for trainees
- Every other Wednesday at 11 AM or 11:30 AM
- Sign up form will be emailed to you

Interested in additional training?

All workshop materials available at:

<https://hbctraining.github.io/main>

Next workshops

- scRNA-seq (Starting on Feb 11th, 2022)
- Intro to shell and O2 (Starting on Feb 25th, 2022)

Current topics in Bioinformatics

Single cell analysis tools

1PM - Dr. Cliff Meyer and Allen Lynch - MIRA:

Joint regulatory modeling of multimodal expression and chromatin accessibility in single cells

2PM - Dr. Jill Lundell and Dr. Kelly Street - cytofQC

Where did my tumor cells go? A better way to clean CyTOF data using 'cytofQC'.

Tomorrow, Dec 15th

Get (stay) in touch with us!

Sign up for our mailing list:

<https://tinyurl.com/hbc-training-mailing-list>

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Twitter: [@bioinfocore](https://twitter.com/bioinfocore)