

organization

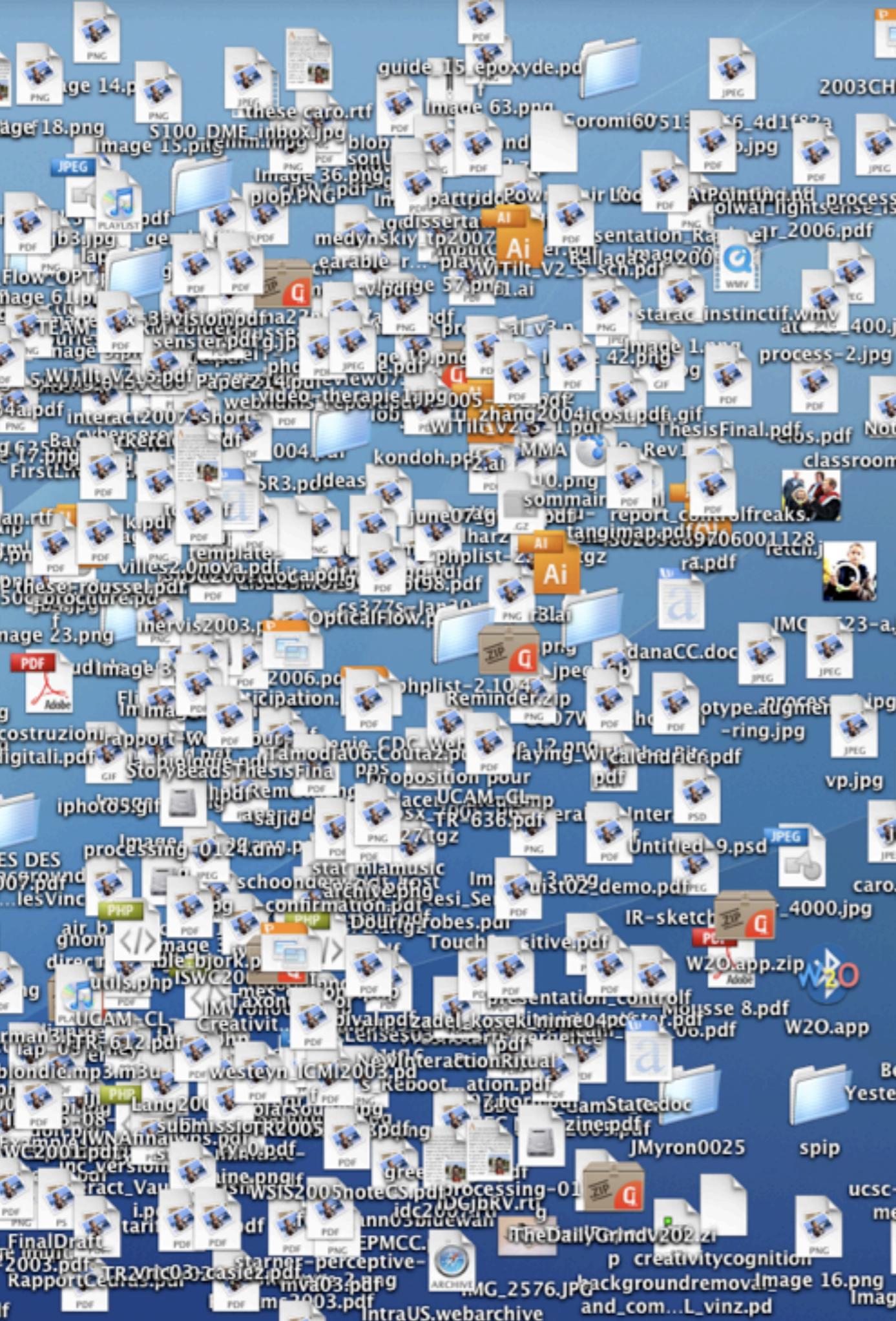
prepared by Jenny Bryan for
Reproducible Science Workshop



*A place for everything,
everything in its place.*

Benjamin Franklin





Name
.DS_Store
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_A01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_A02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_A03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_B01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_B02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_B03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_C01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_C02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_C03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_D01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_D02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_D03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_E01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_E02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_E03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_F01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_F02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_F03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_G01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_G02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_G03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_H01.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_H02.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_H03.csv
2013-06-26_BRAFWTNEGASSAY_Plasmid-Cellline-100-1MutantFraction_platefile.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A01.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A02.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A03.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A04.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A05.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A06.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A07.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A08.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A09.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A10.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_A11.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_B01.csv
2014-02-26_BRAFWTNEGASSAY_FFPEDNA-CRC-1-41_B02.csv

raw data
↓
ready-to-analyze data
↓
computational results

figures

tables

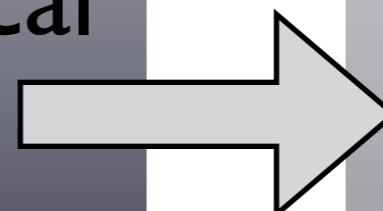
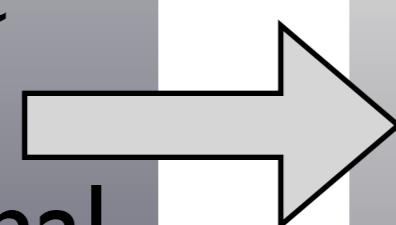
numerical results

report

manuscript

poster

presentation



face it:

there are going to be files

LOTS of files

the files will change over time

the files will have relationships to each other

it'll probably get complicated

file organization and naming is a mighty weapon against chaos

make a file's name and location **VERY INFORMATIVE** about what it is, why it exists, how it relates to other things

the more things are self-explanatory, the better

README's are great, but don't document something if you could just make that thing self-documenting by definition

```
graph TD; A[raw data] --> B[ready-to-analyze data]; B --> C[computational results];
```

raw data
↓
ready-to-analyze data
↓
computational results

data
data-raw
data-clean

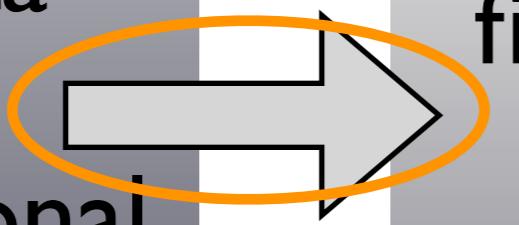
data/
- raw
- clean

PICK A STRATEGY
ANY STRATEGY
JUST PICK ONE!

raw data

ready-to-analyze data

computational results

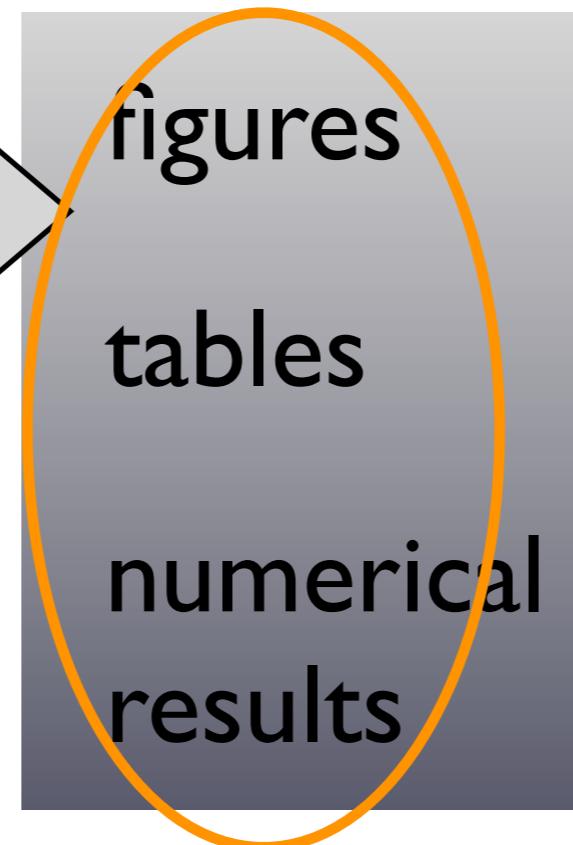
figures
tables
numerical results

code
scripts
analysis
bin

PICK A STRATEGY
ANY STRATEGY
JUST PICK ONE!

raw data
↓
ready-to-analyze data

↓
computational results



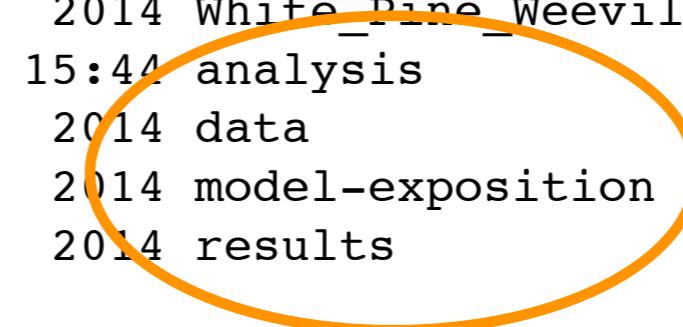
PICK A STRATEGY
ANY STRATEGY
JUST PICK ONE!

figures
results
results/
- figs
- nums

figures
tables

a real (and imperfect!) example

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DE:  
total used in directory 246648 available 131544558  
drwxr-xr-x 14 jenny staff 476 Jun 23 2014 .  
drwxr-xr-x 4 jenny staff 136 Jun 23 2014 ..  
-rw-r--r--@ 1 jenny staff 15364 Apr 23 10:19 .DS_Store  
-rw-r--r-- 1 jenny staff 126231190 Jun 23 2014 .RData  
-rw-r--r-- 1 jenny staff 19148 Jun 23 2014 .Rhistory  
drwxr-xr-x 3 jenny staff 102 May 16 2014 .Rproj.user  
drwxr-xr-x 17 jenny staff 578 Apr 29 10:20 .git  
-rw-r--r-- 1 jenny staff 50 May 30 2014 .gitignore  
-rw-r--r-- 1 jenny staff 1003 Jun 23 2014 README.md  
-rw-r--r-- 1 jenny staff 205 Jun 3 2014 White_Pine_Weevil_DE.Rproj  
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 analysis  
drwxr-xr-x 7 jenny staff 238 Jun 3 2014 data  
drwxr-xr-x 22 jenny staff 748 Jun 23 2014 model-exposition  
drwxr-xr-x 4 jenny staff 136 Jun 3 2014 results
```



/Users/jenny/research/bohlmann/White_Pine_Weevil_DE/data:

total used in directory 173144 available 131544552

```
drwxr-xr-x 7 jenny staff    238 Jun  3 2014 .
drwxr-xr-x 14 jenny staff   476 Jun 23 2014 ..
drwxr-xr-x 26 jenny staff  884 May 16 2014 Sailfish-results
-rw-r--r-- 1 jenny staff 1058 Jun  3 2014 White_Pine_Weevil_exp_design.tsv
-rw-r--r-- 1 jenny staff 74299692 Jun  3 2014 consolidated-Sailfish-results.txt
-rw-r--r-- 1 jenny staff 14322520 Jun  3 2014 consolidated-filtered-Sailfish-results.txt
-rw-r--r-- 1 jenny staff 18676 May 16 2014 putativeRibosomalRNA.id
```

ready-to-analyze data

/Users/jenny/research/bohlmann/White_Pine_Weevil_DE/data/Sailfish-results:

total used in directory 1528944 available 131544421

```
drwxr-xr-x 26 jenny staff  884 May 16 2014 .
drwxr-xr-x 7 jenny staff 238 Jun  3 2014 ..
-rw-r--r-- 1 jenny staff 32853651 May 16 2014 898C1_quant.sf
-rw-r--r-- 1 jenny staff 32848526 May 16 2014 898C2_quant.sf
-rw-r--r-- 1 jenny staff 32880474 May 16 2014 898C3_quant.sf
-rw-r--r-- 1 jenny staff 32761231 May 16 2014 898C4_quant.sf
-rw-r--r-- 1 jenny staff 32426796 May 16 2014 898G1_quant.sf
-rw-r--r-- 1 jenny staff 32277554 May 16 2014 898G2_quant.sf
-rw-r--r-- 1 jenny staff 32423722 May 16 2014 898G3_quant.sf
-rw-r--r-- 1 jenny staff 32348953 May 16 2014 898G4_quant.sf
-rw-r--r-- 1 jenny staff 32884204 May 16 2014 898W1_quant.sf
-rw-r--r-- 1 jenny staff 32685067 May 16 2014 898W2_quant.sf
-rw-r--r-- 1 jenny staff 32685736 May 16 2014 898W3_quant.sf
-rw-r--r-- 1 jenny staff 32828921 May 16 2014 898W4_quant.sf
-rw-r--r-- 1 jenny staff 32701429 May 16 2014 903C1_quant.sf
-rw-r--r-- 1 jenny staff 32364434 May 16 2014 903C2_quant.sf
-rw-r--r-- 1 jenny staff 32122908 May 16 2014 903C3_quant.sf
-rw-r--r-- 1 jenny staff 32527552 May 16 2014 903C4_quant.sf
-rw-r--r-- 1 jenny staff 32620769 May 16 2014 903G1_quant.sf
-rw-r--r-- 1 jenny staff 32648947 May 16 2014 903G2_quant.sf
-rw-r--r-- 1 jenny staff 32342887 May 16 2014 903G3_quant.sf
-rw-r--r-- 1 jenny staff 32734773 May 16 2014 903G4_quant.sf
-rw-r--r-- 1 jenny staff 32792759 May 16 2014 903W1_quant.sf
-rw-r--r-- 1 jenny staff 32881239 May 16 2014 903W2_quant.sf
-rw-r--r-- 1 jenny staff 32463682 May 16 2014 903W3_quant.sf
-rw-r--r-- 1 jenny staff 32673513 May 16 2014 903W4_quant.sf
```

raw data

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DEanalysis
```

```
total used in directory 248 available 131544552
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 .
drwxr-xr-x 14 jenny staff 476 Jun 23 2014 ..
-rw-r--r--@ 1 jenny staff 6148 Apr 14 15:44 .DS_Store
-rw-r--r-- 1 jenny staff 8075 Jun 3 2014 01_marshall-data.md
-rwxr-xr-x 1 jenny staff 4205 Jun 3 2014 01_marshall-data.r
-rw-r--r-- 1 jenny staff 4744 Jun 3 2014 02_pre-dea-filtering.md
-rw-r--r-- 1 jenny staff 2773 Jun 3 2014 02_pre-dea-filtering.r
-rw-r--r-- 1 jenny staff 13275 Jun 3 2014 03_dea-with-limma-voom.md
-rw-r--r-- 1 jenny staff 6383 Jun 23 2014 03_dea-with-limma-voom.r
-rw-r--r-- 1 jenny staff 12910 Jun 3 2014 04_explore-dea-results.md
-rw-r--r-- 1 jenny staff 4460 Jun 3 2014 04_explore-dea-results.r
-rw-r--r-- 1 jenny staff 8142 Jun 3 2014 90_limma-model-term-name-fiasco.md
-rw-r--r-- 1 jenny staff 4107 Jun 3 2014 90_limma-model-term-name-fiasco.r
-rw-r--r-- 1 jenny staff 3018 Jun 3 2014 Makefile
drwxr-xr-x 19 jenny staff 646 Jun 3 2014 figure
-rw-r--r-- 1 jenny staff 506 Jun 3 2014 helper01_load-counts.r
-rw-r--r-- 1 jenny staff 573 Jun 3 2014 helper02_load-exp-des.r
-rw-r--r-- 1 jenny staff 985 Jun 24 2014 helper03_load-focus-statinf.r
-rw-r--r-- 1 jenny staff 490 Jun 2 2014 helper04_extract-and-tidy.r
-rw-r--r-- 1 jenny staff 1369 Jun 23 2014 tmp.txt
```

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DE/analysis/figure:
```

```
total used in directory 1904 available 131544347
drwxr-xr-x 19 jenny staff 646 Jun 3 2014 .
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 ..
-rw-r--r-- 1 jenny staff 211896 Jun 3 2014 02_pre-dea-filtering-preDE-filtering.png
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 03-dea-with-limma-voom-voom-plot.png
-rw-r--r-- 1 jenny staff 29561 Jun 3 2014 04_explore-dea-results-focus-term-adjusted-p-values1.png
-rw-r--r-- 1 jenny staff 41877 Jun 3 2014 04_explore-dea-results-focus-term-adjusted-p-values2.png
-rw-r--r-- 1 jenny staff 28041 Jun 3 2014 04_explore-dea-results-focus-term-estimates1.png
-rw-r--r-- 1 jenny staff 35310 Jun 3 2014 04_explore-dea-results-focus-term-estimates2.png
-rw-r--r-- 1 jenny staff 24206 Jun 3 2014 04_explore-dea-results-focus-term-p-values1.png
-rw-r--r-- 1 jenny staff 37555 Jun 3 2014 04_explore-dea-results-focus-term-p-values2.png
-rw-r--r-- 1 jenny staff 22034 Jun 3 2014 04_explore-dea-results-focus-term-t-statistics1.png
-rw-r--r-- 1 jenny staff 34351 Jun 3 2014 04_explore-dea-results-focus-term-t-statistics2.png
-rw-r--r-- 1 jenny staff 32409 Jun 3 2014 04_explore-dea-results-unnamed-chunk-4.png
-rw-r--r-- 1 jenny staff 40795 Jun 3 2014 04_explore-dea-results-unnamed-chunk-5.png
-rw-r--r-- 1 jenny staff 41628 Jun 3 2014 04_explore-dea-results-unnamed-chunk-6.png
-rw-r--r-- 1 jenny staff 13788 Jun 3 2014 04_explore-dea-results-weevil-estimates1.png
-rw-r--r-- 1 jenny staff 20671 Jun 3 2014 04_explore-dea-results-weevil-estimates2.png
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 90_limma-model-term-name-fiasco-first-voom.png
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 90_limma-model-term-name-fiasco-second-voom.png
```

R scripts +
the Markdown files from
“Compile Notebook”

the figures created in
those R scripts and
linked in those
Markdown files

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DE/analysis:  
total used in directory 248 available 131544552  
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 .  
drwxr-xr-x 14 jenny staff 476 Jun 23 2014 ..  
-rw-r--r--@ 1 jenny staff 6148 Apr 14 15:44 .DS_Store  
-rw-r--r-- 1 jenny staff 8075 Jun 3 2014 01_marshall-data.md  
-rwxr-xr-x 1 jenny staff 4205 Jun 3 2014 01_marshall-data.r  
-rw-r--r-- 1 jenny staff 4744 Jun 3 2014 02_pre-dea-filtering.md  
-rw-r--r-- 1 jenny staff 2773 Jun 3 2014 02_pre-dea-filtering.r  
-rw-r--r-- 1 jenny staff 13275 Jun 3 2014 03_dea-with-limma-voom.md  
-rw-r--r-- 1 jenny staff 6383 Jun 23 2014 03_dea-with-limma-voom.r  
-rw-r--r-- 1 jenny staff 12910 Jun 3 2014 04_explore-dea-results.md  
-rw-r--r-- 1 jenny staff 4460 Jun 3 2014 04_explore-dea-results.r  
-rw-r--r-- 1 jenny staff 8142 Jun 3 2014 90_limma-model-term-name-fiasco.md  
-rw-r--r-- 1 jenny staff 4107 Jun 3 2014 90_limma-model-term-name-fiasco.r  
-rw-r--r-- 1 jenny staff 3018 Jun 3 2014 Makefile  
drwxr-xr-x 19 jenny staff 646 Jun 3 2014 figure  
-rw-r--r-- 1 jenny staff 506 Jun 3 2014 helper01_load-counts.r  
-rw-r--r-- 1 jenny staff 573 Jun 3 2014 helper02_load-exp-des.r  
-rw-r--r-- 1 jenny staff 985 Jun 24 2014 helper03_load-focus-statinf.r  
-rw-r--r-- 1 jenny staff 490 Jun 2 2014 helper04_extract-and-tidy.r  
-rw-r--r-- 1 jenny staff 1369 Jun 23 2014 tmp.txt
```

linear progression of R scripts

Makefile to run the entire analysis

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DE/analysis/figure:
```

```
total used in directory 1904 available 131544347  
drwxr-xr-x 19 jenny staff 646 Jun 3 2014 .  
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 ..  
-rw-r--r-- 1 jenny staff 211896 Jun 3 2014 02_pre-dea-filtering-preDE-filtering.png  
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 03-dea-with-limma-voom-voom-plot.png  
-rw-r--r-- 1 jenny staff 29561 Jun 3 2014 04_explore-dea-results-focus-term-adjusted-p-values1.png  
-rw-r--r-- 1 jenny staff 41877 Jun 3 2014 04_explore-dea-results-focus-term-adjusted-p-values2.png  
-rw-r--r-- 1 jenny staff 28041 Jun 3 2014 04_explore-dea-results-focus-term-estimates1.png  
-rw-r--r-- 1 jenny staff 35310 Jun 3 2014 04_explore-dea-results-focus-term-estimates2.png  
-rw-r--r-- 1 jenny staff 24206 Jun 3 2014 04_explore-dea-results-focus-term-p-values1.png  
-rw-r--r-- 1 jenny staff 37555 Jun 3 2014 04_explore-dea-results-focus-term-p-values2.png  
-rw-r--r-- 1 jenny staff 22034 Jun 3 2014 04_explore-dea-results-focus-term-t-statistics1.png  
-rw-r--r-- 1 jenny staff 34351 Jun 3 2014 04_explore-dea-results-focus-term-t-statistics2.png  
-rw-r--r-- 1 jenny staff 32409 Jun 3 2014 04_explore-dea-results-unnamed-chunk-4.png  
-rw-r--r-- 1 jenny staff 40795 Jun 3 2014 04_explore-dea-results-unnamed-chunk-5.png  
-rw-r--r-- 1 jenny staff 41628 Jun 3 2014 04_explore-dea-results-unnamed-chunk-6.png  
-rw-r--r-- 1 jenny staff 13788 Jun 3 2014 04_explore-dea-results-weevil-estimates1.png  
-rw-r--r-- 1 jenny staff 20671 Jun 3 2014 04_explore-dea-results-weevil-estimates2.png  
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 90_limma-model-term-name-fiasco-first-voom.png  
-rw-r--r-- 1 jenny staff 108920 Jun 3 2014 90_limma-model-term-name-fiasco-second-voom.png
```

note: figure names echo the script names

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DF/results:  
total used in directory 288912 available 131544548  
drwxr-xr-x  4 jenny  staff      136 Jun  3  2014 .  
drwxr-xr-x 14 jenny  staff      476 Jun 23  2014 ..  
-rw-r--r--  1 jenny  staff  80774780 Jun 23  2014 limma-results-focus-terms.tsv  
-rw-r--r--  1 jenny  staff  67143123 Jun 23  2014 limma-results-model-terms.tsv
```

tab-delimited files with one row per gene of parameter estimates, test statistics, etc.

and now for something completely different!
expository files re: helping collaborators understand the model we
fit (some markdown docs, a Keynote presentation, Keynote slides
exported as PNGs for viewability on GitHub)

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_Development/model-exposition:  
total used in directory 4456 available 131544548  
drwxr-xr-x  22 jenny  staff      748 Jun 23 2014 .  
drwxr-xr-x  14 jenny  staff      476 Jun 23 2014 ..  
-rw-r--r--  1 jenny  staff    3919 Jun 23 2014 01_model-exposition.md  
-rw-r--r--  1 jenny  staff    3478 Jun 23 2014 02_model-exposition.md  
-rw-r--r--  1 jenny  staff    4957 Jun 23 2014 03_model-exposition.md  
-rw-r--r--@ 1 jenny  staff   86610 Jun 23 2014 model-exposition.001.png  
-rw-r--r--@ 1 jenny  staff  161682 Jun 23 2014 model-exposition.002.png  
-rw-r--r--@ 1 jenny  staff  161885 Jun 23 2014 model-exposition.003.png  
-rw-r--r--@ 1 jenny  staff  135896 Jun 23 2014 model-exposition.004.png  
-rw-r--r--@ 1 jenny  staff  115589 Jun 23 2014 model-exposition.005.png  
-rw-r--r--@ 1 jenny  staff  166944 Jun 23 2014 model-exposition.006.png  
-rw-r--r--@ 1 jenny  staff  136718 Jun 23 2014 model-exposition.007.png  
-rw-r--r--@ 1 jenny  staff  111572 Jun 23 2014 model-exposition.008.png  
-rw-r--r--@ 1 jenny  staff  34696 Jun 23 2014 model-exposition.009.png  
-rw-r--r--@ 1 jenny  staff  118678 Jun 23 2014 model-exposition.010.png  
-rw-r--r--@ 1 jenny  staff  91763 Jun 23 2014 model-exposition.011.png  
-rw-r--r--@ 1 jenny  staff  136906 Jun 23 2014 model-exposition.012.png  
-rw-r--r--@ 1 jenny  staff  36688 Jun 23 2014 model-exposition.013.png  
-rw-r--r--@ 1 jenny  staff  86171 Jun 23 2014 model-exposition.014.png  
-rw-r--r--@ 1 jenny  staff  68439 Jun 23 2014 model-exposition.015.png  
-rw-r--r--@ 1 jenny  staff 138242 Jun 23 2014 model-exposition.016.png  
-rw-r--r--@ 1 jenny  staff 438746 Jun 23 2014 model-exposition.key
```

caveats/problems:

that project is no where near done, i.e. no manuscript or publication-ready figs

file naming has inconsistencies due to 3 different people being involved

code and reports/figures all sit together because it's just much easier that way w/ knitr & rmarkdown

wins:

I can walk away from the project and come back to it a year later and resume work fairly quickly

the 2 other people (the post-doc whose project it is + the bioinformatician for that lab) were able to figure out what I did and decide which files they needed to look at, etc.

GOOD ENOUGH!

other tips: the **from_joe** directory

Let's say my collaborator and data producer is Joe. He will send me data with weird space-containing file names, data in Microsoft Excel workbooks, etc. It is futile to fight this, just quarantine all the crazy here. I rename things and/or export to plain text and put those files in my data directory. Whether I move, copy, or symlink depends on the situation. Whatever I did gets recorded in a README or in comments in my R code -- whatever makes it easiest for me to remind myself of a file's provenance, if it came from the outside world in a state that was not ready for programmatic analysis.

other tips: **give yourself less rope**

I often revoke my own write permission to the raw data file.

Then I can't accidentally edit it.

It also makes it harder to do manual edits in a moment of weakness, when you know you should just add a line to your data cleaning script.

other tips: **prose**

Sometimes you need a place to park key emails, internal documentation and explanations, random Word and PowerPoint docs people send, etc.

This is kind of like from joe, where I don't force myself to keep same standards with respect to file names and open formats.

other tips: life cycle of data

Here's how most data analyses go down in reality:

you get raw data

you explore, describe and visualize it

you diagnose what this data needs to become useful

you fix, clean, marshal the data into ready-to-analyze form

you visualize it some more

you fit a model or whatever and write lots of numerical results to file

you make prettier tables and many figures based on the data & results accumulated by this point

Both the data file(s) and the code/scripts that acts on them usually reflect this progression

other tips: life cycle of data

prepare data
do your stats
make tables and figs

the R scripts

01_marshall-data.r
02_pre-dea-filtering.r
03_dea-with-limma-voom.r
04_explore-dea-results.r
90_limma-model-term-name-fiasco.r

the figures left behind

02_pre-dea-filtering-preDE-filtering.png
03-dea-with-limma-voom-voom-plot.png
04_explore-dea-results-focus-term-adjusted-p-values1.png
04_explore-dea-results-focus-term-adjusted-p-values2.png
04_explore-dea-results-focus-term-estimates1.png
04_explore-dea-results-focus-term-estimates2.png
04_explore-dea-results-focus-term-p-values1.png
04_explore-dea-results-focus-term-p-values2.png
04_explore-dea-results-focus-term-t-statistics1.png
04_explore-dea-results-focus-term-t-statistics2.png
04_explore-dea-results-unnamed-chunk-4.png
04_explore-dea-results-unnamed-chunk-5.png
04_explore-dea-results-unnamed-chunk-6.png
04_explore-dea-results-weevil-estimates1.png
04_explore-dea-results-weevil-estimates2.png
90_limma-model-term-name-fiasco-first-voom.png
90_limma-model-term-name-fiasco-second-voom.png

raw data



ready-to-
analyze data



computational
results

figures

tables

numerical
results

report

manuscript

file organization should reflect
inputs vs outputs and the flow
of information

poster

presentation

```
/Users/jenny/research/bohlmann/White_Pine_Weevil_DE:  
drwxr-xr-x 20 jenny staff 680 Apr 14 15:44 analysis  
drwxr-xr-x 7 jenny staff 238 Jun 3 2014 data  
drwxr-xr-x 22 jenny staff 748 Jun 23 2014 model-exposition  
drwxr-xr-x 4 jenny staff 136 Jun 3 2014 results
```