My Title

My Name

The Date

Contents

1 Using LaTeX

1.1 Installing

Installation is easy. For MacOS, just download from here. For Windows, look here.

1.2 Useful LaTeXcommands

1. To use this section, look at the .tex file itself, rather than just this PDF. It contains the scripts that do the work.

2. Sections are made using the command used to make this section. You can also have subsections and subsubsections. LaTeXwill automatically number them for you.

3. Lots of commands in LaTeXdo something to text between curly brackets. If your document fails to compile, it's almost always because you've forgotten to close with a curly bracket. Compile frequently so that you can easily track down the error.

4. Paragraphs. Leave a double space between lines (double carriage return). Or insert two backslashes at the end of the line.

5. Enumerate: The enumerate commands make a list such as this one. For a unnumbered list, use "itemize" rather than "enumerate"

6. Quotes: To open quotes, use the "`" key below the tilde twice. To close them, use the regular double quotes key once. I know, it's mad, but there it is.

7. Italics: *italics*. Always italicize worm gene names, e.g., *mab-3*.

8. Math: is the thing that LaTeXis really good at. I'll give you an example of an equation below, but you probably won't need it.

9. Figures: Their size, shape and position can be elaborately specified, but keep it simple.

10. Citations: work like this: Lee *et al.* (2008) or (Levin *et al.* , 2012). Now, to make them work you need to have a Bibtex file containing your citations. I have given you one to start with called "Wormreferences". Bibtex formatted references can be downloaded easily from marked lists in Web of Knowledge. Just copy and paste your references into the "References file". The actual format of the references is given in the bibstyle commands at the end of the document. Don't mess with that. It's not exactly Harvard—but getting exactly Harvard is a whole other story.

11. Citations *continued*. To format the citations in your document, you have to compile it once, run the Bibtex command under "Typeset", and compile it again. If it doesn't work, do it a few times and they'll pop up nicely formatted.

12. Citations *continued*. To get the proper caps and italics in your references you need specify them in the "references file". Putting something in curly brackets will enforce caps; italicize as you would in a document (see examples).

13. Hyperlinks. Can be done like this: Wormbase.

14. Dashes. The best kind of dash to use needs three keyboard hyphens in a row—like this.

15. Ancillary files: Your figure and reference file needs to be in the same folder as your main text file—or you have to specify it's in a different one.

16. Figures: They should be PDFs or jpgs. TIFFs won't work.

17. Have **patience**! If you can't figure something out, just Google it, and you're sure to find an answer.

18. Finally, trust me—this will be worth it. Just—please—don't try to learn LaTeXthe night before the essay is due.

1.3 Figures, Tables & Equations

You can put figures directly into the text. If you want to mess with their formatting, look here.

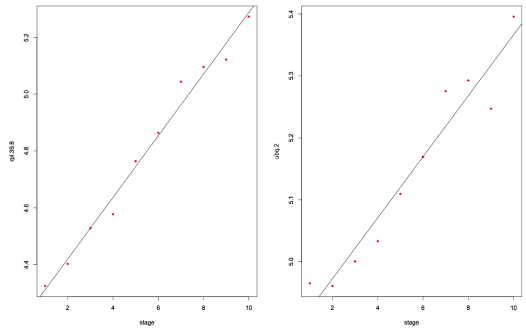

Figure 1: *rpl* gene expression in *C. elegans* development

I have to say that Figure 1 is a bit of a rubbish figure. You should generate better ones in R by playing with the plot settings—or use the ggplot2 library. It's very nice, but has quite a steep learning curve. LaTeXis pretty good about placing figures, but of course if it doesn't have the space on a page, it will put it somewhere that you may not want it. You'll just have to experiment.

Here is how to make a table such as Table 1:

Things	r	r'	n	n'	w_i
A	10	1	1	10	10
B	10	6	1	5	5
C	10	3	1	8	8
D	10	2	1	9	9
E	10	5	1	6	6

Table 1: The Table's title

And, finally, here is how to make an equation such as Equation 1. These can be as complicated as you please.

$$\Delta SD(z) = (z_i - \bar{z})^2 \beta \left(\frac{w_i}{\bar{w}}, (z_i - \bar{z})^2 \right) \tag{1}$$

2 Introduction

2.1 A subsection

Your actual paper starts here. Just type away, using the commands above to format the thing. Don't worry if it crashes—LaTeXnever loses anything.

2.1.1 A subsubsection

3 Methods

Write about the methods you used. You don't have to give R code, just tell me what packages you used, and if you did anything special tell me what. Nor do you have to use these subsections—they're just examples.

3.1 Identifying my genes of interest

3.2 Heatmap and Hierarchal Cluster Analysis

3.2.1 Heatmap

3.2.2 Hierarchal Cluster Analysis

3.3 Network Construction

4 Results

4.1 *rpl* gene expression increases during development

Each of your results subsections should be a simple declarative sentence, like the one that starts this subsection.

5 Discussion

6 Conclusions

References

Lee, I., Lehner, B., Crombie, C., Wong, W., Fraser, A. G., & Marcotte, E. M. 2008. A single gene network accurately predicts phenotypic effects of gene perturbation in *Caenorhabditis elegans*. *Nature Genetics*, **40**(2), 181–188.

Levin, M., Hashimshony, T., Wagner, F., & Yanai, I. 2012. Developmental milestones punctuate gene expression in the *Caenorhabditis* embryo. *Developmental Cell*, **22**(5), 1101–1108.