

**Lab Book**  
*project title*  
Author

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Institute

2018

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# Chapter 1

## May 2018

### 1.1 13

#### 1.1.1 Learning L<sup>A</sup>T<sub>E</sub>X

- Working folder: *path*

L<sup>A</sup>T<sub>E</sub>X is a high-quality typesetting system, available as free software, which allows to produce scientific or technical documents [?]. I am using L<sup>A</sup>T<sub>E</sub>X to create a Bioinformatics Lab Book. To compile my Lab Book, I can use command lines ([pdflatex](#) and [bibtex](#)). Afterwards I can visualise the produced *.pdf* file with evince or another reader. Alternatively, I can use a Latex editor, such as TexWorks (<https://www.tug.org/texworks/>), which allows me to write the code and control the *pdf* file in the same environment (Figure 1.1).

To compile the *.tex* file in the command line:

```
$pdflatex lab-book  
$bibtex lab-book  
$pdflatex lab-book  
$pdflatex lab-book
```

To visualise the *.pdf*:

```
$evince lab-book.pdf &
```

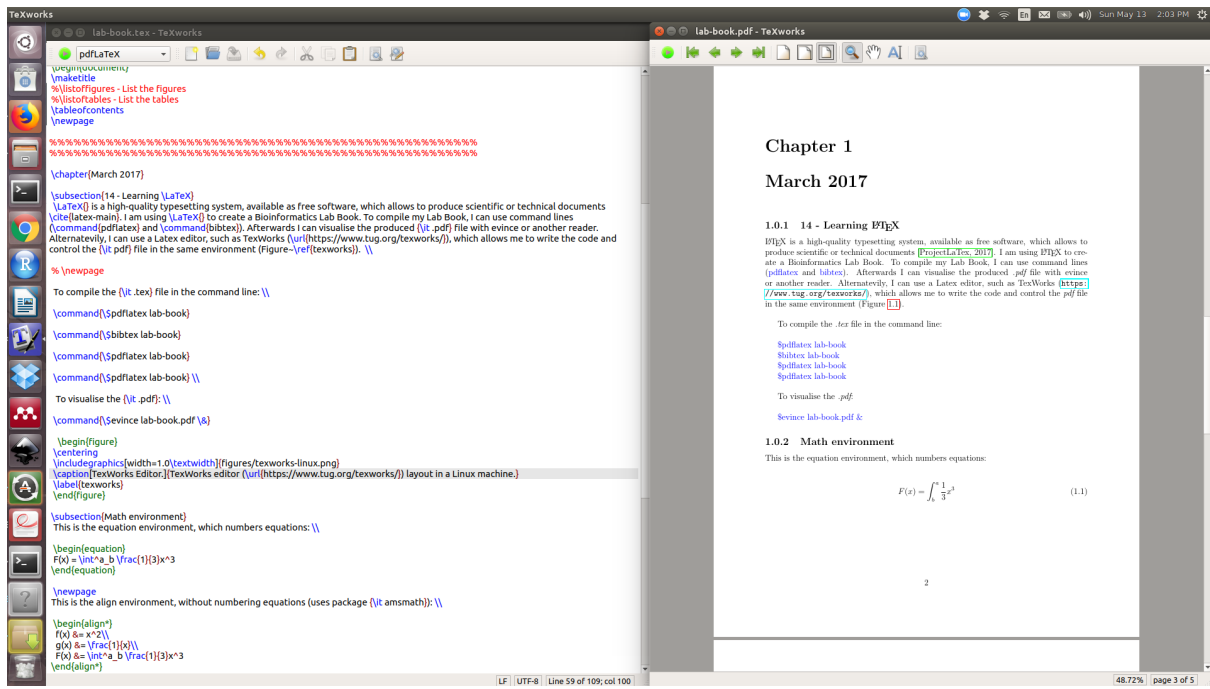


Figure 1.1: TexWorks editor (<https://www.tug.org/texworks/>) layout in a Linux machine.

## 1.1.2 Math environment

This is the equation environment, which numbers equations:

$$F(x) = \int_b^a \frac{1}{3}x^3 \quad (1.1)$$

This is the align environment, without numbering equations (uses package *amsmath*):

$$\begin{aligned} f(x) &= x^2 \\ g(x) &= \frac{1}{x} \\ F(x) &= \int_b^a \frac{1}{3} x^3 \end{aligned}$$

### 1.1.3 15 - Short-term project proposal

Some text here. Including and referencing a table (table 1.1).

- First numbered list item
- Second numbered list item

Table 1.1: table0

species	changes	score
Macaque	4	0.0
Human	2	14.9
Orangutan	0	0.0
Pan	0	0.0
Gorilla	0	0.0

# Chapter 2

August, 2018

## 2.1 28

### 2.1.1 Bibliographic search for genomes

Found a new possibility of phyla list. Because of this, there are four possibilities of list of microorganisms phyla, one of them, the SILVA database, is based in RNA sequences:

- The list of Prokariotic names with stading nomenclature <http://www.bacterio.net/-classifphyla.html>
- SILVA database LSU(large subunit of ribosome) <https://www.arb-silva.de/browser/lsu/>
- SILVA database SSU(small subunit of ribosome) <https://www.arb-silva.de/browser/ssu/>
- PATRIC GENOMES [https://www.patricbrc.org/view/Taxonomy/2#view\\_tab=taxontree](https://www.patricbrc.org/view/Taxonomy/2#view_tab=taxontree)

The list of articles used until now is:

- 10.1038/nature14486
- 10.1038/ismej.2013.111
- 10.1038/ismej.2013.174
- 10.1038/ismej.2016.43
- 10.1038/nature12352
- 10.1038/nature14486
- 10.1038/nature21031
- 10.1038/ismej.2015.233
- 10.1038/ncomms13219

- 10.1073/pnas.0801980105
- 10.1111/1462-2920.13362
- 10.1126/science.1132690
- 10.1186/s40168-015-0077-6

The list os correspondent phyla and articles is above:

Table 2.1: table 1

DOI	Phylum
10.1038/nature14486	Candidatus Falkowbacteria
10.1038/nature14486	Candidatus Kuenenbacteria
10.1038/nature14486	Candidatus Magasanikbacteria
10.1038/nature14486	Candidatus Uhrbacteria
10.1038/nature14486	Candidatus Moranbacteria
10.1038/nature14486	Candidatus Azambacteria
10.1038/nature14486	Candidatus Yanofskybacteria
10.1038/nature14486	Candidatus Jorgensenbacteria
10.1038/nature14486	Candidatus Wolfebacteria
10.1038/nature14486	Candidatus Giovannonibacteria
10.1038/nature14486	Candidatus Nomurabacteria
10.1038/nature14486	Candidatus Campbellbacteria
10.1038/nature14486	Candidatus Adlerbacteria
10.1038/nature14486	Candidatus Kaiserbacteria
10.1038/nature14486	C. S. yataiensis
10.1038/nature14486	Pacebacteria
10.1038/nature14486	Candidatus Collierbacteria
10.1038/nature14486	Candidatus Beckwithbacteria
10.1038/nature14486	Candidatus Roizmanbacteria
10.1038/nature14486	Candidatus Saphirobacteria
10.1038/nature14486	Candidatus Amesbacteria
10.1038/nature14486	Candidatus Woesebacteria
10.1038/nature14486	Candidatus Gottesmanbacteria
10.1038/nature14486	Candidatus Levybacteria
10.1038/nature14486	Candidatus Daviesbacteria
10.1038/nature14486	Candidatus Curtissbacteria
10.1038/nature14486	WWE3
10.1038/nature14486	CPR3
10.1038/nature14486	WS6
10.1038/nature14486	Candidatus Berkelbacteria
10.1038/nature14486	Candidatus Peregrinibacteria
10.1038/nature14486	Candidatus Gracilibacteria
10.1038/nature14486	CPR2
10.1038/nature14486	Kazan
10.1038/nature14486	Saccharibacteria (TM7)
10.1038/nature14486	SR1
10.1038/ncomms13219	Candidatus Kerfeldbacteria
10.1038/ncomms13219	Candidatus Komeilibacteria
10.1038/ncomms13219	Candidatus Andersenbacteria
10.1038/ncomms13219	Candidatus Ryanbacteria
10.1038/ncomms13219	Candidatus Niyogibacteria



10.1038/ncomms13219	Candidatus Tagabacteria
10.1038/ncomms13219	Candidatus Terrybacteria
10.1038/ncomms13219	Candidatus Vogelbacteria
10.1038/ncomms13219	Candidatus Zambryskibacteria
10.1038/ncomms13219	Candidatus Taylorbacteria
10.1038/ncomms13219	Candidatus Sungbacteria
10.1038/ncomms13219	Candidatus Brennerbacteria
10.1038/ncomms13219	Candidatus Spechtbacteria
10.1038/ncomms13219	Candidatus Staskawiczbacteria
10.1038/ncomms13219	Candidatus Wildermuthbacteria
10.1038/ncomms13219	Candidatus Portnoybacteria
10.1038/ncomms13219	Candidatus Woykebacteria
10.1038/ncomms13219	Candidatus Blackburnbacteria
10.1038/ncomms13219	Candidatus Chisholmbacteria
10.1038/ncomms13219	Candidatus Buchananbacteria
10.1038/ncomms13219	Candidatus Jacksonbacteria
10.1038/ncomms13219	Candidatus Veblenbacteria
10.1038/ncomms13219	Candidatus Nealsonbacteria
10.1038/ncomms13219	Candidatus Colwellbacteria
10.1038/ncomms13219	Candidatus Liptonbacteria
10.1038/ncomms13219	Candidatus Harrisonbacteria
10.1038/ncomms13219	Candidatus Yonathbacteria
10.1038/ncomms13219	Candidatus Lloydbacteria
10.1038/ncomms13219	Candidatus Abawacabacteria
10.1038/ncomms13219	Candidatus Doudnabacteria
10.1038/ismej.2013.111	Candidatus Poribacteria
10.1111/1462-2920.13362	Candidatus Desantisbacteria
10.1038/nature12352	Candidatus Omnitrophica
10.1038/nature12352	Candidatus Aminicenantes
10.1126/science.1132690	Candidatus Micrarchaeota
10.1038/nature14486	Candidatus Magasanikbacteria
10.1073/pnas.0801980105	Candidatus Korarchaeota
10.1038/nature12352	Candidatus Fervidibacteria
10.1038/nature12352	Candidatus Aenigmarchaeota
10.1038/ismej.2016.43	Candidatus Fermentibacteria
10.1038/ismej.2013.174	Candidatus Bathyarchaeota
10.1016/j.cub.2015.01.014	Candidatus Woesearchaeota
10.1016/j.cub.2015.01.014	Candidatus Kryptonia
10.1038/nature12352	Candidatus Diapherotrites
10.1038/nature12352	Candidatus Latescibacteria
10.1038/nature21031	Candidatus Thorarchaeota
10.1038/ismej.2015.233	Candidatus Lindowbacteria
10.1038/ncomms13219	Candidatus Parvarchaeota
10.1038/nature12352	Candidatus Cloacimonetes
10.1038/nature12352	Candidatus Hydrogenedentes
10.1038/nature12352	Candidatus Acetothermia

10.1038/nature12352  
10.1038/ncomms13219  
10.1186/s40168-015-0077-6

Candidatus Nanohaloarchaeota  
Candidatus Eisenbacteria  
candidate division WOR-3

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# Bibliography

[Hug et al., 2016] Hug, L. A., Baker, B. J., Anantharaman, K., Brown, C. T., Probst, A. J., Castelle, C. J., Butterfield, C. N., HERNSDORF, A. W., Amano, Y., Ise, K., et al. (2016). A new view of the tree of life. *Nature microbiology*, 1(5):16048.