A scientific poster entirely written in org-mode using GNU emacs and the beamer library

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Background

- Org-mode is not only useful for producing blog posts and even scientific manuscripts; it is also perfectly suitable to make decent looking scientific posters
- We combine a relatively simple custom LaTeXstyle file and common org-mode syntax
- The nice thing about org-mode is that we can populate the poster with code, graphs and numbers from inline code in languages such as R, python, Matlab and even shell scripting
- Inline code would look like this, which will produce a graph (Fig. 1):

```
x <- rnorm(100, 0, 1)
hist(x, col="gray")
```

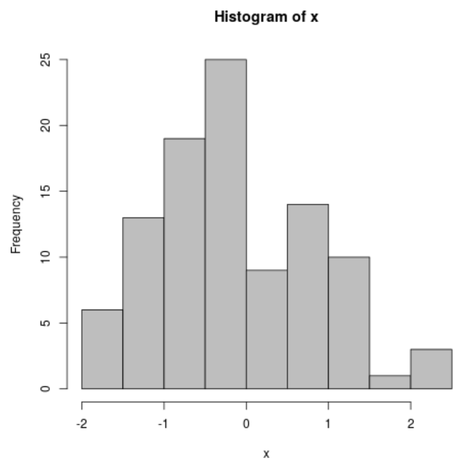

Figure 1: This is the output.

Inline code and tables

- In addition to inline code, we can also produce tables
- Tables are very powerful in org-mode, they even include spreadsheet capabilities
- Some code to process the vector from above to make a table out of its summary could look like this, which would result in a little table (Table 1) :

```
m <- round(mean(x), 2)
s <- round(sd(x), 2)
data.frame(Mean=m, SD=s)
```

Mean	SD
0.07	0.98

Table 1: A table.

Graphics

- Of course we can also include graphics
- Here, we use shell scripting to grab an image with curl from the internet (Fig. 2):

```
curl -O https://www.gnu.org/software/emacs/images/emacs.png
```

Figure 2: This is the downloaded image.

Math

- We can easily include math:

  The Kullback-Leibler (KL) divergence measures the difference between two probability distributions (i.e., the loss of information when one distribution is used to approximate another). The KL divergence is thus defined as

$$D_{\mathrm{KL}}(P\|Q) = \sum_{i=1}^{n} P(i) \log \frac{P(i)}{Q(i)} \tag{1}$$

  with P and Q being two probability distribution functions and n the number of sample points. Since $D_{\mathrm{KL}}(P\|Q)$ is not equal to $D_{\mathrm{KL}}(Q\|P)$, a symmetric variation of the KL divergence can be derived as follows:

$$D_{\mathrm{KL}}(P, Q) = \sum_{i=1}^{n} \left(P(i) \log \frac{P(i)}{Q(i)} + Q(i) \log \frac{Q(i)}{P(i)} \right). \tag{2}$$

Columns

LaTeX

Figure 3: This is the left figure of a two-column block

LaTeX

Figure 4: This is the right figure.

Conclusions

- This little example is meant to show how incredibly versatile org-mode is
- One can now produce scientific posters with a simple text editor

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