

Writing your thesis with LaTeX

Using the TUB_PhDThesisTemplate

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Gutachter: Prof. D

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Zusammenfassung

Hier kommt der deutsche Abstrakt rein... ÜÖ sind ok.

Abstract

Put your abstract here...

Dedicated to ...

Acknowledgements

I would like to acknowledge the thousands of individuals who have coded for open-source projects for free. It is due to their efforts that scientific work with powerful tools is possible.

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Abbreviations

ATP adenosintriphosphat 1

1

Introduction

1.1 put section name here

Write your text without any further commands, like this:.... Any organised system requires energy, be it a machine of some kind or a live organism. Energy is needed to win the uphill battle against entropy and pull together lifeless molecules to be able to do something in this world, like complete a PhD.

1.1.1 Name your subsection

Different organised systems have different energy currencies. The machines that enable us to do science like sizzling electricity but at a controlled voltage¹. Earth's living beings are no different, except that they have developed another preference. They thrive on various chemicals.

Most organisms use polymers of glucose units for energy storage and differ only slightly in the way they link together monomers to sometimes gigantic macromolecules. Dextran of bacteria is made from long chains of α -1,6-linked glucose units.

Starch of plants and glycogen of animals consists of α -1,4-glycosidic glucose polymers [1]. See figure 1.1 for a comparison of glucose polymer structure and chemistry.

Two references can be placed separated by a comma [1, 2].

Insulin stimulates the following processes:

- muscle and fat cells remove glucose from the blood,
- cells breakdown glucose via glycolysis and the citrate cycle, storing its energy in the form of ATP,
- liver and muscle store glucose as glycogen as a short-term energy reserve,
- adipose tissue stores glucose as fat for long-term energy reserve, and

¹Footnote example

1. Introduction

- cells use glucose for protein synthesis.

Gene	GeneID	Length
human latexin	1234	14.9 kbps
mouse latexin	2345	10.1 kbps
rat latexin	3456	9.6 kbps

Table 1.1: title of table - Overview of latexin genes.

1.2 SI-Units

Please use siunitx-package: $1\text{ V} = 1\text{ }\Omega\text{ }1\text{ A}$

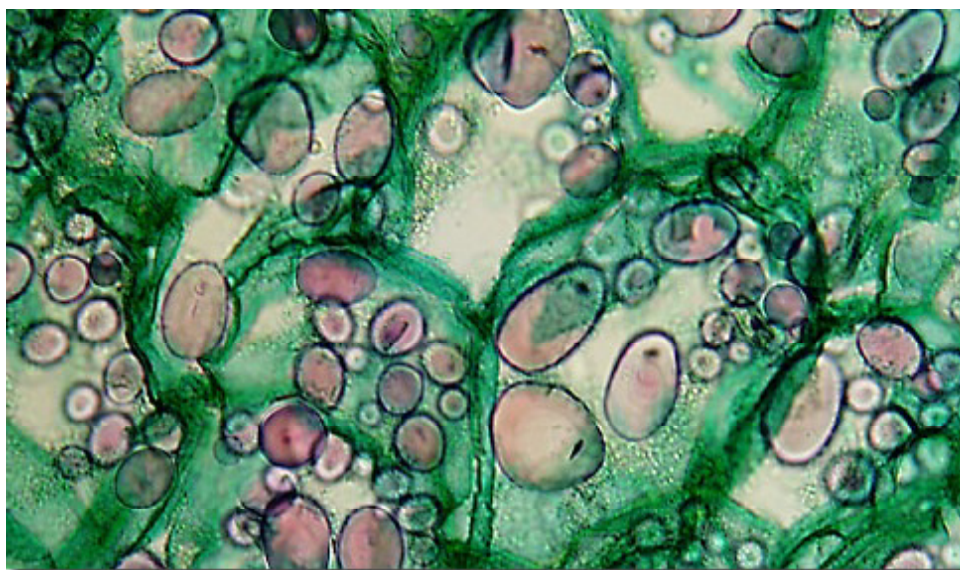


Figure 1.1: A common glucose polymers - The figure shows starch granules in potato cells, taken from Molecular Expressions.

2

State of the Art

2.1 Lorem ipsum

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1. one

2. two

(a) two one

(b) two two

3. three

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2.2 Some math

Theorem 1 (Residue Theorem) *Let f be analytic in the region G except for the isolated singularities a_1, a_2, \dots, a_m . If γ is a closed rectifiable curve in G which does not pass through any of the points a_k and if $\gamma \approx 0$ in G , then*

$$\frac{1}{2\pi i} \int_{\gamma} f = \sum_{k=1}^m n(\gamma; a_k) \operatorname{Res}(f; a_k).$$

2.2.1 More math

$y = \sin(x)$:

$$y = \int_0^x \cos(x) \, dx = \frac{e^{ix} - e^{-ix}}{2i} \quad (2.1)$$

Normal text output. This is written with textsf! **And this text with textbf!** This is Courier font.

2.3 Preliminary aims

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3

Including tikz

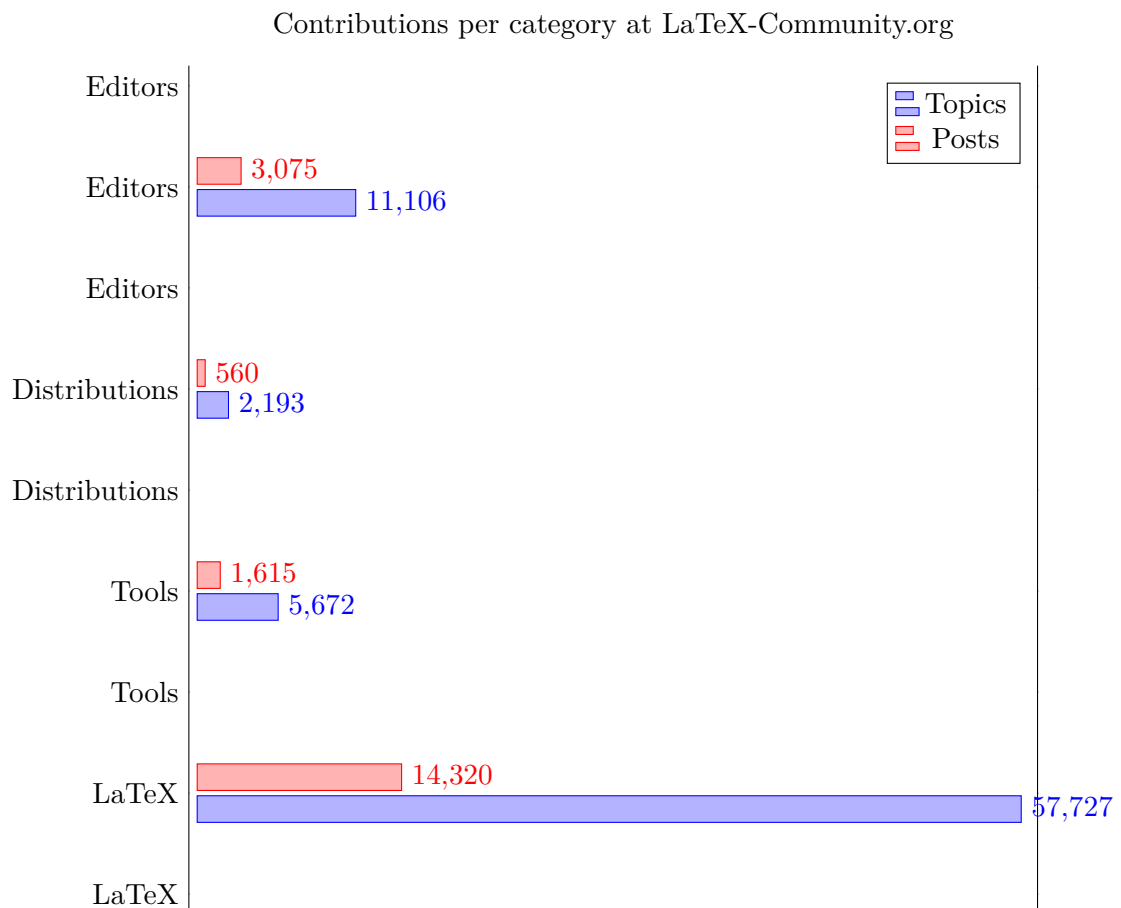


Figure 3.1: Tikz Example.

4

Sum - Algorithm

```
1: procedure SUM( { $x$ } )  
2:    $y \leftarrow 0$   
3:   for  $i \leftarrow 1 : N^x$  do  
4:      $y \leftarrow y + x(i)$   
5:   end for  
6:   return  $y$   
7: end procedure
```

▷ Time series $\{x\}$ has length N^x
▷ Summing up.

Figure 4.1: Implementation of a algorithm for calculating a sum.

5

PGF-plots from python

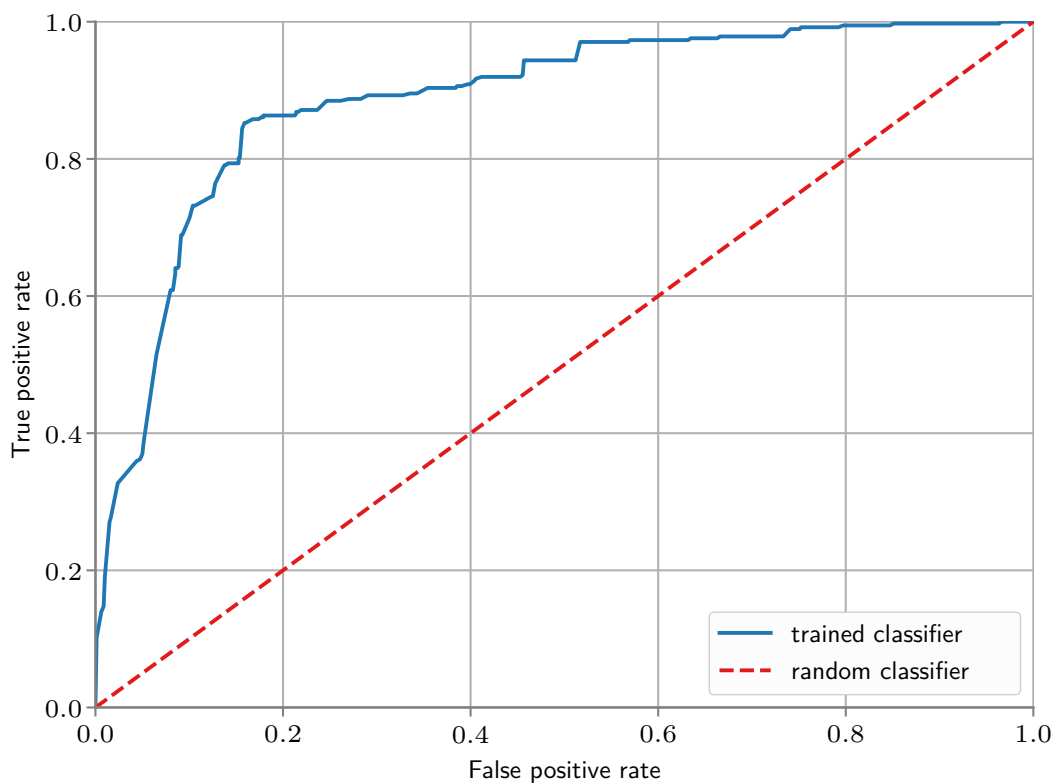


Figure 5.1: Example of using python to generate a pgf-figure which has the same fonts as the main latex document. Run `python plot_exemplary_roc.py` from the Python directory to generate the pgf-file.

6

Asymptote

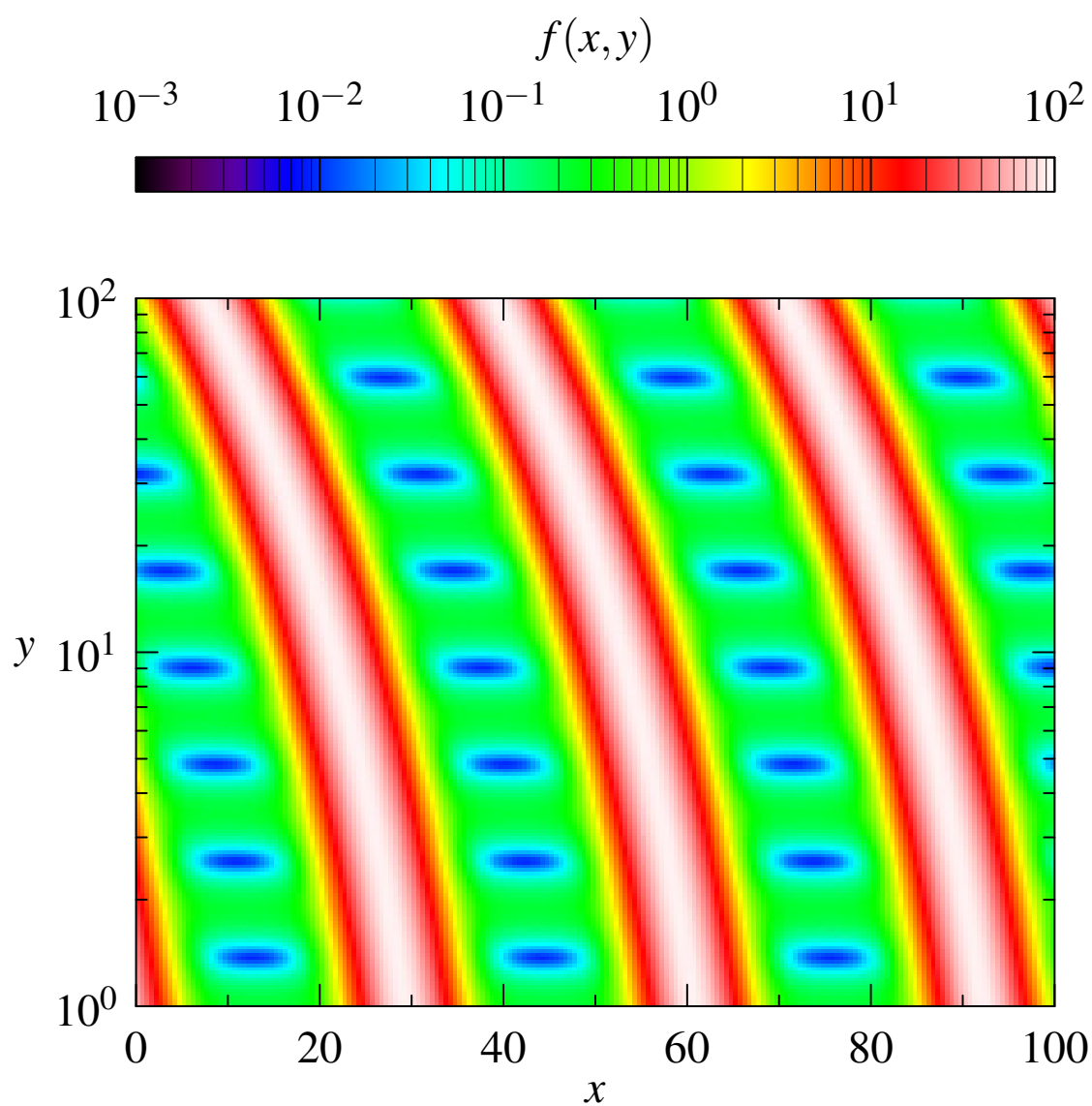


Figure 6.1: Example for plotting with asymptote

7

Discussion



Materials and Methods

References

- [1] O. Lastname. “Title”. In: *Journal of Sth* 1.1 (2007), pp. 1–31. ISSN: 1234-1234. DOI: 10.1007/1234.
- [2] O. name. “Title”. In: *Journal of Sth* 1.1 (2006), pp. 1–31. ISSN: 1234-1234. DOI: 10.1007/1234.



Appendix A