Radioresistant Bacteria of the Reed Research Reactor

A Thesis

Presented to

The Division of Mathematics and Natural Sciences

Reed College

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Arts

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(Biochemistry and Molecular Biology)

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Jay Mellies

Acknowledgements

I want to thank a few people.

Preface

This is an example of a thesis setup to use the reed thesis document class (for LaTeX) and the R bookdown package, in general.

Table of Contents

List of Tables

List of Figures

Abstract

The preface pretty much says it all.

Second paragraph of abstract starts here.

Dedication

You can have a dedication here if you wish.

Chapter 1

If you have more two advisors, un-silence line 7

Placeholder

1.1 Significance

1.2 Radioresistant Spotlight

1.3 The Reed Research Reactor

1.4 So what am I doing here?

Chapter 2

Materials and Methods

Placeholder

2.1 Initial Isolation

2.2 UV testing of isolates

2.3 16S PCR Analysis

2.4 Growth Rate Analysis

2.5 Gram Staining

2.6 DNA Sequencing Analysis

2.7 Additional resources

Chapter 3

Results

Placeholder

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3.2 Growth Rates

3.3 Radioresistance Part 2: electric bungaloo

3.4 Identification

3.4.1 Gram Stains

3.4.2 16S PCR

3.5 Analysis

3.6 Chemistry 101: Symbols

3.6.1 Typesetting reactions

3.6.2 Other examples of reactions

3.7 Physics

3.8 Biology

Chapter 4

Graphics, References, and Labels

Placeholder

4.1 Figures

4.2 Footnotes and Endnotes

4.3 Bibliographies

4.4 Anything else?

Conclusion

If we don't want Conclusion to have a chapter number next to it, we can add the `{-}` attribute.

More info

And here's some other random info: the first paragraph after a chapter title or section head *shouldn't be* indented, because indents are to tell the reader that you're starting a new paragraph. Since that's obvious after a chapter or section title, proper typesetting doesn't add an indent there.

Appendix A

The First Appendix

This first appendix includes all of the R chunks of code that were hidden throughout the document (using the `include = FALSE` chunk tag) to help with readibility and/or setup.

In the main Rmd file

```
knitr::opts_chunk$set(echo = FALSE)
# This chunk ensures that the thesisdown package is
# installed and loaded. This thesisdown package includes
# the template files for the thesis.
if (!require(remotes)) {
  if (params$`Install needed packages for {thesisdown}`) {
    install.packages("remotes", repos = "https://cran.rstudio.com")
  } else {
    stop(
      paste('You need to run install.packages("remotes")",
            "first in the Console.')
    )
  }
}
```

```
Loading required package: remotes
```

```
if (!require(dplyr)) {
  if (params$`Install needed packages for {thesisdown}`) {
    install.packages("dplyr", repos = "https://cran.rstudio.com")
```

```
  } else {
    stop(
      paste(
        'You need to run install.packages("dplyr")',
        "first in the Console."
      )
    )
  }
}
```

```
Loading required package: dplyr
```

```
Attaching package: 'dplyr'
```

```
The following objects are masked from 'package:stats':
```

```
    filter, lag
```

```
The following objects are masked from 'package:base':
```

```
    intersect, setdiff, setequal, union
```

```
if (!require(ggplot2)) {
  if (params$`Install needed packages for {thesisdown}`) {
    install.packages("ggplot2", repos = "https://cran.rstudio.com")
  } else {
    stop(
      paste(
        'You need to run install.packages("ggplot2")',
        "first in the Console."
      )
    )
  }
}
```

```
Loading required package: ggplot2
```

```
if (!require(bookdown)) {
  if (params$`Install needed packages for {thesisdown}`) {
    install.packages("bookdown", repos = "https://cran.rstudio.com")
  } else {
    stop(
      paste(
        'You need to run install.packages("bookdown")',
        "first in the Console."
      )
    )
  }
}
```

```
Loading required package: bookdown
```

```
if (!require(thesisdown)) {
  if (params$`Install needed packages for {thesisdown}`) {
    remotes::install_github("ismayc/thesisdown")
  } else {
    stop(
      paste(
        "You need to run",
        'remotes::install_github("ismayc/thesisdown")',
        "first in the Console."
      )
    )
  }
}
```

```
Loading required package: thesisdown
```

```
library(thesisdown)
library(dplyr)
library(ggplot2)
library(knitr)
library(graphics)
```

```
# Set how wide the R output will go
options(width = 70)
```

In Chapter 4:

Appendix B

The Second Appendix, for Fun

References

Placeholder

Figure B.1: Example of a parametric plot $(\sin(x), \cos(x), x)$