# **BDS SROP Student Manuscript**

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## **Abstract**

This manuscript is a demonstration of writing with Manubot. It is not a real scientific manuscript and may be incomplete, broken, or abandoned. Let's test what happens after editing the manuscript content!

## Sections for each author

Each author can write about some of the resources they used in their summer research. Add citations using the Manubot cite-by-identifier format.

## **Anthony**

My group worked with the Signaling Pathway Reconstruction Analysis Streamliner (SPRAS) this summer [1]. One algorithm that we typically use to introduce SPRAS is called PathLinker [2], which is based on shortest paths in a graph. We also use an example cell signaling dataset to study how cells use phosphorylation as a way to communicate via chemical modifications [3].

use phosphorylation as a way to communication	ate via chemical modifications [3].	
Sarah		
Jaren		
Yunju		
Livvy		
Marley		
Eric		
Basic formatting		
Bold text		
Semi-bold text		
	Centered text	
		Right-aligned text
Italic text		

Combined italics and bold

#### Strikethrough

- 1. Ordered list item
- 2. Ordered list item

- a. Sub-item
- b. Sub-item
  - i. Sub-sub-item
- 3. Ordered list item
  - a. Sub-item
- List item
- List item
- List item

subscript: H<sub>2</sub>O is a liquid

superscript: 2<sup>10</sup> is 1024.

unicode superscripts<sup>0123456789</sup>

unicode subscripts<sub>0123456789</sub>

A long paragraph of text. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Putting each sentence on its own line has numerous benefits with regard to <u>editing</u> and <u>version</u> control.

Line break without starting a new paragraph by putting two spaces at end of line.

## **Document organization**

Document section headings:

## **Heading 1**

## **Heading 2**

**Heading 3** 

**Heading 4** 

**Heading 5** 

**Heading 6** 



#### Horizontal rule:

Heading 1's are recommended to be reserved for the title of the manuscript.

Heading 2's are recommended for broad sections such as Abstract, Methods, Conclusion, etc.

Heading 3's and Heading 4's are recommended for sub-sections.

## Links

Bare URL link: <a href="https://manubot.org">https://manubot.org</a>

<u>Long link with lots of words and stuff and junk and bleep and blah and stuff and other stuff and more stuff yeah</u>

Link with text

Link with hover text

Link by reference

## **Citations**

Citation by DOI [4].

Citation by PubMed Central ID [5].

Citation by PubMed ID [3].

Citation by Wikidata ID [6].

Citation by ISBN [7].

Citation by URL [8].

Citation by arXiv ID [9]

Citation by alias [10].

Multiple citations can be put inside the same set of brackets [4,7,10]. Manubot plugins provide easier, more convenient visualization of and navigation between citations [3,5,10,11].

Citation tags (i.e. aliases) can be defined in their own paragraphs using Markdown's reference link syntax:

## Referencing figures, tables, equations

```
Figure 2

Figure 3

Figure 4

Table 1

Equation 1

Equation 2
```

## **Quotes and code**

Quoted text

Quoted block of text

Two roads diverged in a wood, and I—I took the one less traveled by, And that has made all the difference.

Code in the middle of normal text, aka inline code.

Code block with Python syntax highlighting:

```
from manubot.cite.doi import expand_short_doi

def test_expand_short_doi():
    doi = expand_short_doi("10/c3bp")
    # a string too long to fit within page:
    assert doi == "10.25313/2524-2695-2018-3-vliyanie-enhansera-copia-i-
        insulyatora-gypsy-na-sintez-ernk-modifikatsii-hromatina-i-
        svyazyvanie-insulyatornyh-belkov-vtransfetsirovannyh-geneticheskih-
        konstruktsiyah"
```

Code block with no syntax highlighting:

```
Exporting HTML manuscript
Exporting DOCX manuscript
Exporting PDF manuscript
```

## **Figures**



**Figure 1:** A square image at actual size and with a bottom caption. Loaded from the latest version of image on GitHub.



**Figure 2:** An image too wide to fit within page at full size. Loaded from a specific (hashed) version of the image on GitHub.



Figure 3: A tall image with a specified height. Loaded from a specific (hashed) version of the image on GitHub.



Figure 4: A vector .svg image loaded from GitHub. The parameter sanitize=true is necessary to properly load SVGs hosted via GitHub URLs. White background specified to serve as a backdrop for transparent sections of the image. Note that if you want to export to Word ( .docx ), you need to download the image and reference it locally (e.g. content/images/vector.svg) instead of using a URL.

## **Tables**

**Table 1:** A table with a top caption and specified relative column widths.

Bowling Scores	Jane	John	Alice	Bob
Game 1	150	187	210	105
Game 2	98	202	197	102
Game 3	123	180	238	134

**Table 2:** A table too wide to fit within page.

	Digits 1-33	Digits 34-66	Digits 67-99	Ref.
pi	3.14159265358979323 846264338327950	28841971693993751 0582097494459230	78164062862089986 2803482534211706	piday.org
е	2.71828182845904523 536028747135266	24977572470936999 5957496696762772	40766303535475945 7138217852516642	nasa.gov

Table 3: A table with merged cells using the attributes plugin.

	Colors	
Size	Text Color	Background Color
big	blue	orange
small	black	white

## **Equations**

A LaTeX equation:

$$\int_0^\infty e^{-x^2} dx = \frac{\sqrt{\pi}}{2} \tag{1}$$

An equation too long to fit within page:

$$x = a + b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q + r + s + t + u + v + w + x + y + z + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9$$
 (2)

## **Special**

▲ WARNING The following features are only supported and intended for .html and .pdf exports. Journals are not likely to support them, and they may not display correctly when converted to other formats such as .docx.

LINK STYLED AS A BUTTON

Adding arbitrary HTML attributes to an element using Pandoc's attribute syntax:

Manubot Manubot Manubot Manubot Manubot. Manubot Manubot Manubot Manubot. Manubot Manubot. Manubot Manubot. Manubot. Manubot.

Adding arbitrary HTML attributes to an element with the Manubot attributes plugin (more flexible than Pandoc's method in terms of which elements you can add attributes to):

Manubot Manubo

Available background colors for text, images, code, banners, etc:

white lightgrey grey darkgrey black lightred lightyellow lightgreen lightblue lightpurple red orange yellow green blue purple

Using the **Font Awesome** icon set:

Light Grey Banner
useful for general information - manubot.org

## **1** Blue Banner

useful for important information - manubot.org

**♦ Light Red Banner** useful for *warnings* - <u>manubot.org</u>

## References

## 1. Signaling Pathway Reconstruction Analysis Streamliner (SPRAS)

Reed College Computational Biology (2023-07-13) <a href="https://github.com/Reed-CompBio/spras">https://github.com/Reed-CompBio/spras</a>

## 2. Pathways on demand: automated reconstruction of human signaling networks

Anna Ritz, Christopher L Poirel, Allison N Tegge, Nicholas Sharp, Kelsey Simmons, Allison Powell, Shiv D Kale, TM Murali

*npj Systems Biology and Applications* (2016-03-03) <a href="https://doi.org/gsg7c6">https://doi.org/gsg7c6</a>
DOI: <a href="https://doi.org/gsg7c6">10.1038/npjsba.2016.2</a> · PMID: <a href="https://doi.org/gsg7c6">28725467</a> · PMCID: <a href="https://doi.org/gsg7c6">PMCID: PMC5516854</a>

### 3. Synthesizing Signaling Pathways from Temporal Phosphoproteomic Data.

Ali Sinan Köksal, Kirsten Beck, Dylan R Cronin, Aaron McKenna, Nathan D Camp, Saurabh Srivastava, Matthew E MacGilvray, Rastislav Bodík, Alejandro Wolf-Yadlin, Ernest Fraenkel, ... Anthony Gitter

*Cell reports* (2018-09-25) <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">https://www.ncbi.nlm.nih.gov/pubmed/30257219</a>
DOI: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">10.1016/j.celrep.2018.08.085</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">20.1016/j.celrep.2018.08.085</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">20.1016/j.celrep.2018.08</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">20.1016/j.celrep.2018.08</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">20.1016/j.celrep.2018.08</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/30257219">20.1016/j.celrep.2018</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pubmed/20257

### 4. Sci-Hub provides access to nearly all scholarly literature

Daniel S Himmelstein, Ariel Rodriguez Romero, Jacob G Levernier, Thomas Anthony Munro, Stephen Reid McLaughlin, Bastian Greshake Tzovaras, Casey S Greene *eLife* (2018-03-01) <a href="https://doi.org/ckcj">https://doi.org/ckcj</a>

DOI: <u>10.7554/elife.32822</u> · PMID: <u>29424689</u> · PMCID: <u>PMC5832410</u>

## 5. Reproducibility of computational workflows is automated using continuous analysis

Brett K Beaulieu-Jones, Casey S Greene

*Nature biotechnology* (2017-04) <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/</a>
DOI: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">10.1038/nbt.3780</a> · PMID: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">28288103</a> · PMCID: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">PMCID: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">10.1038/nbt.3780/</a> · PMCID: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6103790/">10.1038/nbt.3780/</a> · PMCID:

# 6. Plan S: Accelerating the transition to full and immediate Open Access to scientific publications

cOAlition S

(2018-09-04) https://www.wikidata.org/wiki/Q56458321

## 7. Open access

Peter Suber *MIT Press* (2012)

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#### 8. Open collaborative writing with Manubot

Daniel S Himmelstein, Vincent Rubinetti, David R Slochower, Dongbo Hu, Venkat S Malladi, Casey S Greene, Anthony Gitter

Manubot (2020-05-25) https://greenelab.github.io/meta-review/

#### 9. Attention Is All You Need

Ashish Vaswani, Noam Shazeer, Niki Parmar, Jakob Uszkoreit, Llion Jones, Aidan N Gomez, Lukasz Kaiser, Illia Polosukhin arXiv (2017-12-07) https://arxiv.org/abs/1706.03762

#### 10. Opportunities and obstacles for deep learning in biology and medicine

Travers Ching, Daniel S Himmelstein, Brett K Beaulieu-Jones, Alexandr A Kalinin, Brian T Do, Gregory P Way, Enrico Ferrero, Paul-Michael Agapow, Michael Zietz, Michael M Hoffman, ... Casey S Greene

Journal of The Royal Society Interface (2018-04) <a href="https://doi.org/gddkhn">https://doi.org/gddkhn</a>
DOI: <a href="https://doi.org/gddkhn">10.1098/rsif.2017.0387</a> · PMID: <a href="pyg29618526">29618526</a> · PMCID: <a href="pyg29618526">PMCID: pmC5938574</a>

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Daniel S Himmelstein, Vincent Rubinetti, David R Slochower, Dongbo Hu, Venkat S Malladi, Casey S Greene, Anthony Gitter

PLOS Computational Biology (2019-06-24) <a href="https://doi.org/c7np">https://doi.org/c7np</a>

DOI: <u>10.1371/journal.pcbi.1007128</u> · PMID: <u>31233491</u> · PMCID: <u>PMC6611653</u>