

# LATEX Workshop

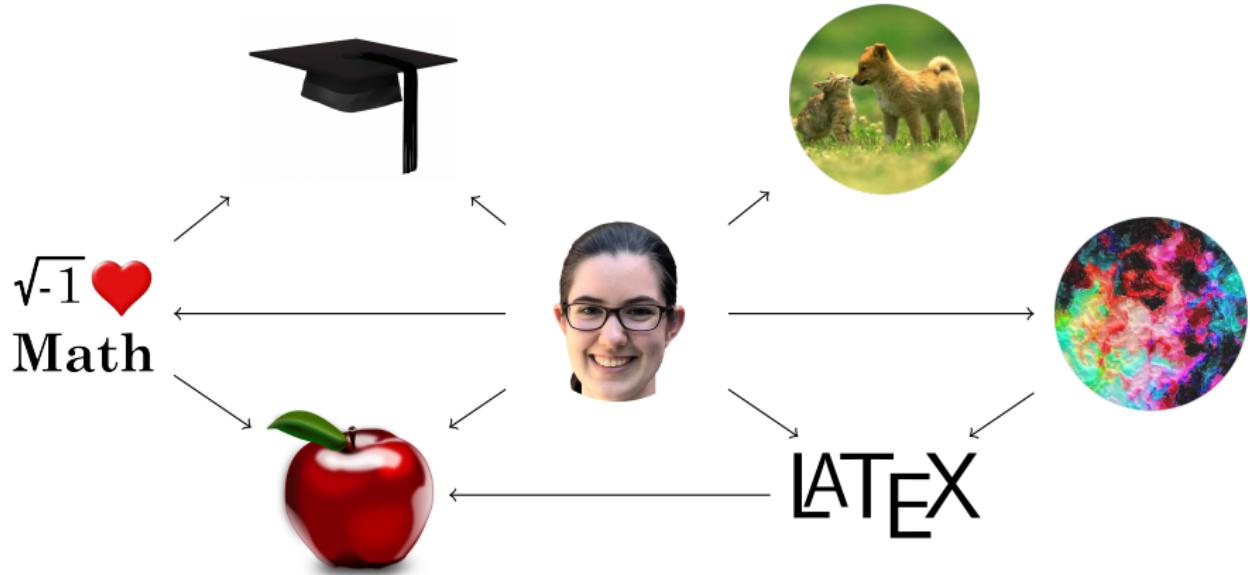
Meirian Lovelace-Tozer

@MeirianLT

@ResCom\_unimelb



# Who am I?



# Who are you?

In your table group . . .

- Introduce yourselves;
- Find one thing everyone on your table has in common;
- Introduce the person to your right and tell us one thing you learnt about them.



# Learning objectives

- Basic L<sup>A</sup>T<sub>E</sub>X document;
- Environments;
- Document structure;
- Lunch;
- Formatting;
- Mathematics typesetting;
- Referencing.

## Animals

An article about animals.



# What is L<sup>A</sup>T<sub>E</sub>X?

/'leɪtɛks/



# What is L<sup>A</sup>T<sub>E</sub>X?

/'leɪtɛk/ or  
/'la:tɛk/

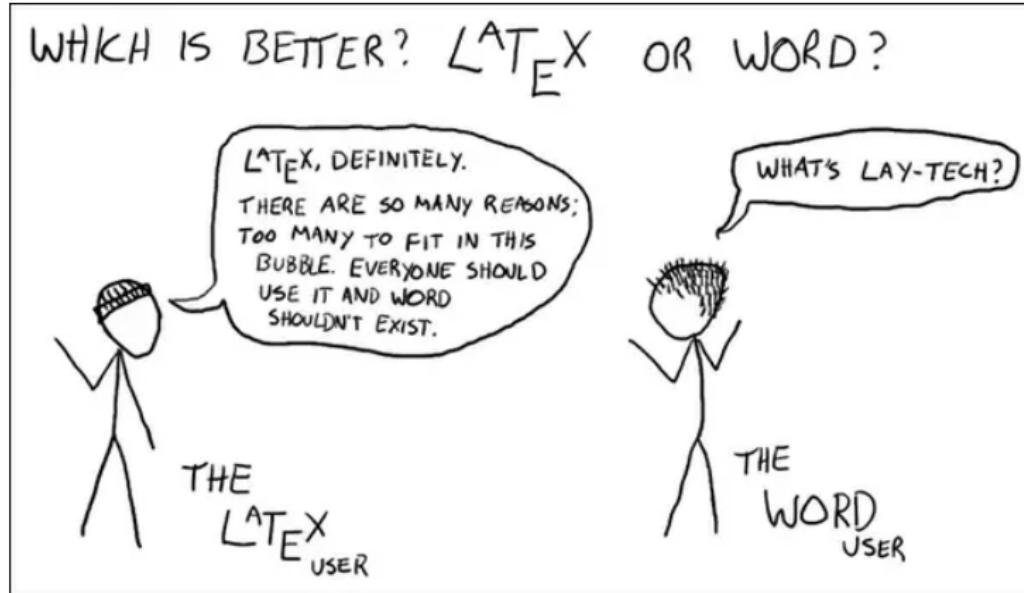


# What is L<sup>A</sup>T<sub>E</sub>X?

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

- L<sup>A</sup>T<sub>E</sub>X is a programming language for high-quality, beautiful typesetting.
- Typesetting is the science and art of positioning type on a page in preparation for publishing.

# Why use L<sup>A</sup>T<sub>E</sub>X?



Nabil Elqatib, Fanatic L<sup>A</sup>T<sub>E</sub>X user.

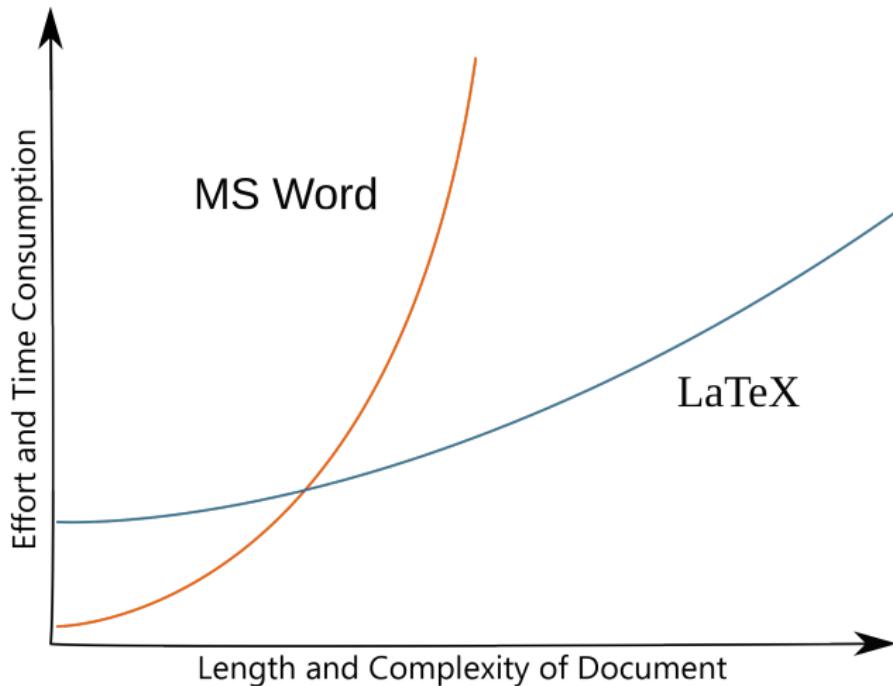
# Why use L<sup>A</sup>T<sub>E</sub>X?

Digital Doctoral Diaries:  
Publishing during your PhD with L<sup>A</sup>T<sub>E</sub>X

[https://youtu.be/\\_WAg6rq8pKE](https://youtu.be/_WAg6rq8pKE)



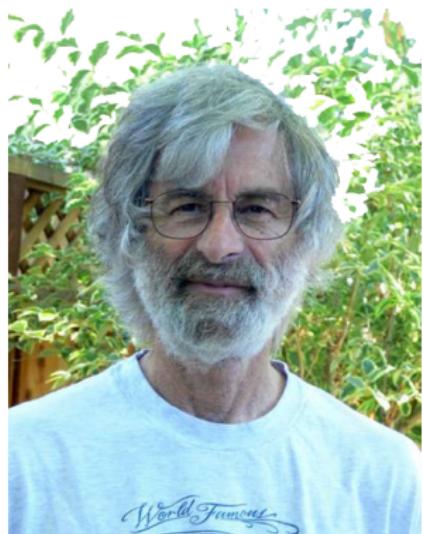
# Why use L<sup>A</sup>T<sub>E</sub>X?



# The history of L<sup>A</sup>T<sub>E</sub>X



**Figure:** Prof. Emeritus Donald E.  
Knuth



**Figure:** Dr. Leslie B. Lamport

# Document classes

- books,
- journal articles,
- technical reports,
- IEEE transactions,
- proceedings,
- résumés/CVs,
- letters,
- memoirs,
- posters,
- slide presentations.

# Getting started

```
\documentclass{book}
```



# Getting started

```
\documentclass{article}
```



# Getting started

```
\documentclass{article}
```

```
\begin{document}
```

```
\end{document}
```



# Getting started

Hello World!

```
1 \documentclass{article}
2
3 \begin{document}
4
5     Hello World!
6
7 \end{document}
```



# Getting started

```
\title{My Title}  
\author{My Name}  
\date{\today}
```



# Getting started

My Title

My Name

March 27, 2020

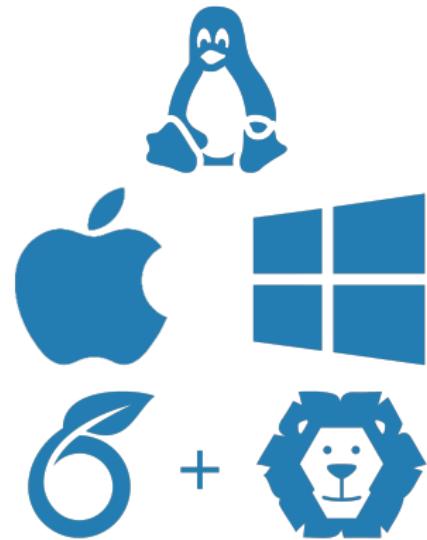
Hello World!

```
1 \documentclass{article}
2
3 \title{My Title}
4 \author{My Name}
5 \date{\today}
6
7 \begin{document}
8
9     \maketitle
10    Hello World!
11
12 \end{document}
```



# Getting started

- Free and open-source software.
- Cross-platform: Linux, MacTeX, MiKTeX, Online.
- [resbaz.github.io/  
resbook-installation/  
latex](https://resbaz.github.io/resbook-installation/latex)
- [liantze.penguinattack.org/  
getlatex.html](http://liantze.penguinattack.org/getlatex.html)



[www.overleaf.com](http://www.overleaf.com)

[www.overleaf.com/edu/unimelb](http://www.overleaf.com/edu/unimelb)



# Why use L<sup>A</sup>T<sub>E</sub>X?

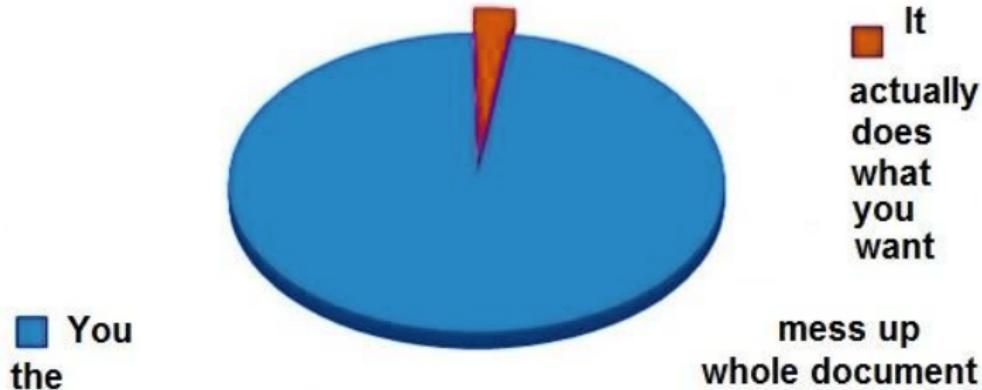
## Moving a picture in Microsoft Word



- It actually does what you want
- You mess up the whole document

# Why use L<sup>A</sup>T<sub>E</sub>X?

## Moving a picture in Microsoft Word



# Graphics



# Choose your favourite animal!



# Figures challenge

- Create an article and give it an appropriate  
`\title{□};`
  - Find and insert an image of your favourite animal using  
the `figure` environment;
  - Give your image a clever and creative caption!
- 
- *Hint:* Don't forget to use the `graphicx` package.
  - *Bonus:* Specify the height or width of your image.
  - *Bonus:* Can you rotate your image?



# Lists challenge

- Create an *unordered* list of 3 reasons why your chosen animal is the best.
- Create an *ordered* list of 3 questions about your chosen animal.
  - Look up interesting facts about your animal online so that others won't know the answers to all your questions!
- *Bonus:* Include a sub-list in one of your lists.
- \* *Bonus:* Can you customise the bullets of your list?



# Table challenge

- Replicate the following table, with one row per question:

Question	Response	Correct?
1.	Don't fill in the answers!	no
2.		
3.(a)		
(b)		

Table: Responses to questions about my animal.

- Hint: You may use [tablesgenerator.com](http://tablesgenerator.com)

# Formatting and symbols challenge

- Replicate the following example, replacing the word 'Dogs' with your animal of choice:

Dogs are *the best!* 😊

- *Hint:* Use [detexify.kirelabs.org](https://detexify.kirelabs.org) to find special symbols.
- *Bonus:* Look up the fontawesome package and find symbols you could put on a CV.

# Mathematics challenge

- Replicate the following example using math-mode:

$$\sin\left(\frac{\pi}{3}\right) = \frac{\sqrt{3}}{2}$$

- *Hint:* You can use [detexify.kirelabs.org](https://detexify.kirelabs.org)
- *Bonus:* Type the most difficult mathematics problem you can find!

Mathematics video

# Tips and Tricks to Typeset Technical Formulas using L<sup>A</sup>T<sub>E</sub>X

<https://youtu.be/k0VZy6qG890>



# Referencing challenge

- Share your file with a partner.
- Attempt the questions asked by your partner using the table they created!
- Cite any references you used to answer the questions.
- How did your partner go? Correct their responses.
  
- *Bonus:* Put a hyperlink at the start of your document to help your partner find the table.
- *Bonus:* Cite *The Digital Research Skills Cookbook*.



# Thank you

Thanks for coming — I hope you enjoyed the workshop!

- Feedback survey: <http://go.unimelb.edu.au/bym6>
- Expect to receive a follow-up email with a list of resources.
- Interested in becoming a leader?  
Let me know by responding to the follow-up email ☺

