

# Plagiarism and Research Ethics

Ginestra Bianconi

School of Mathematical Sciences Queen Mary University of London

**Notes based on previous notes**

**by**

**Mark Walters and Franco Vivaldi**

# Outline of the lesson

## **Plagiarism**

- Definition
- New algorithms to detect plagiarism

## **Good scientific practice and referencing**

- Good scientific practice in writing your project
- How to cite articles, books, etc.

## **Conclusions**

# What is plagiarism?

The University of Oxford defines it as follows:

*Plagiarism is presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement.*

# What is plagiarism

QMUL defines it as follows:

*The College defines plagiarism as presenting someone else's work as one's own, irrespective of intention.*

*Extensive quotations;*

*close paraphrasing;*

*copying from the work of another person,*

*including another student, or using the ideas of another person without proper acknowledgement,*

*also constitute plagiarism.*

# What does involve

Plagiarism involves two things:

- taking other peoples work (ideas, results, writings, images);
- presenting it as your own,

whether that is your intention or not.

The last point is the most significant:  
it is your responsibility to  
imagine what the reader will believe from what you have written.

# Plagiarism is a disciplinary offence

Plagiarism is a disciplinary offence

You could lose all your marks on your project  
—even be expelled from College!

The College uses advanced software  
for detecting it  
(e.g., Turn-It-In)

Don't do it!

# Plagiarism detection on the Arxiv

Most of the archives for scientific articles use methods to detect plagiarisms in substitution of the peer-review.

For example this is one case of detected plagiarism in the website [arXiv.org](http://arXiv.org)

8. [arXiv:1201.3418](http://arXiv:1201.3418) [pdf]

Title: Data Mining: A prediction for performance improvement using classification

Authors: [Brijesh Kumar Bhardwaj](#), [Saurabh Pal](#)

Comments: 5 pages. arXiv admin note: substantial text overlap with [arXiv:1002.1144](http://arXiv:1002.1144) by other authors without attribution

Journal-ref: (IJCSIS) International Journal of Computer Science and Information Security, Vol. 9, No. 4, April 2011, pp 136-140

Subjects: Information Retrieval (cs.IR)

# Citations

**Plagiarism is avoided by giving appropriate citations.**

(In the LATEX lecture we discussed the technical side of this:  
`\bibtex` and `\cite`.)

**Citing adds value to your work:**

- It shows that you have read the literature, and that you know how the results fit together.
- Citing too much is better than citing too little: if in doubt, give a citation.



# Verbatim copying

Verbatim copying means using the same words as someone else, typically by ‘cutting and pasting’.

Verbatim copying does not equate to plagiarism; indeed quoting a famous sentence is a rather common device

(albeit rather uncommon in mathematics, where we rarely ‘argue by authority’).

*To avoid plagiarism, there must always be a clear quote, either enclosing the relevant passage within quotation marks, or displaying it using the `\quote` environment in LATEX.*

# Example

We shall adopt Kronecker's viewpoint:

*God gave us the integers: the rest is the work of man.*

**L<sup>A</sup>T<sub>E</sub>X:**

```
We shall adopt Kronecker's viewpoint:  
\begin{quote}  
God gave us the integers:  the rest is the  
work of man.  
\end{quote}
```

# Paraphrasing

When repeating an argument given by someone else, one must paraphrase the original text.

To avoid plagiarism, the following is required:

- A citation, since you are still taking the idea of the argument from someone else.
- A **substantial** re-writing of the source, not merely reproducing it with slight changes. You should read the argument, then close the book/article and try to reproduce the argument in your own words.

Paraphrasing can be tricky, e.g., in a difficult proof; take advice from your supervisor in these cases.

# Examples

Our proof is essentially that given in [13]. Let  $\mathcal{A}$  be...

As in [Tuck14], we begin our proof by...

The steps in the proof of theorem 3.6 are as follows (for more details, see [12,Theorem 2]).

**L<sup>A</sup>T<sub>E</sub>X:**

```
(for more details, see \cite[Theorem  
2]{Silverman:08})
```

# Appropriation of ideas

If your result is original, but the argument you use is very similar to something that has been done before on a related topic, you must still give attribution, for otherwise you could be committing plagiarism.

## Example

‘Using the ideas of Bollobás’s proof of. . . ’

‘Following Bollobás [3] . . . ’

# Common knowledge

In some cases, there may not be a clear reference,  
because **everyone** knows it.

You must still make it clear that it is not your own idea, using  
expressions such as

‘It is well-known that. . . ’

‘The following result is folklore.’

Make sure that the lack of a reference is not a consequence of your  
lack of familiarity with the literature. If someone proved this result  
and you are not giving credit, then you are likely to annoy that person.  
However, you are not being dishonest; so while you could be  
penalised for poor practice, it would not be plagiarism.

# Background bibliography

Research papers often begin with a vast bibliography, citing all the works that form the background and motivation of the document.

‘Discrete-space versions of symplectic maps first appeared in the study of numerical orbits [22,11,27,9,28,19], to mimic quantum effects in classical systems [6] and to improve the efficiency of delicate computations [12].’

**L<sup>A</sup>T<sub>E</sub>X:**

```
Discrete-space versions of symplectic maps
first appeared in the study of numerical orbit
\cite{Rannou,Kaneko,Scovel,
EarnTremaine,Vivaldi:94,NucinkisEtAl},
```

# Bibliographical data

Each argument of `\cite` requires a matching entry `\bibitem` within the `\thebibliography` environment, at the end of the document, with the following data:

## Articles

author names(s), title, journal's name [in italic/slanted], volume number [in boldface], year of publication, page range. The issue number (within round brackets after the volume number) is not necessary.

## Books

author(s), title [in italics, with upper case initials], publisher, city of publisher, year of publication.



# Articles (the bibliography)

```
\begin{thebibliography}
...
\bibitem{Karney}
C. F. F. Karney,
Long time correlations in the stochastic regime,
{\sl Physica D}
{\bf 8}
(1983)
360--380.
...
\end{thebibliography}
\end{document}
```

# Books

## (the bibliography)

....  
`\bibitem{Silverman}`  
J. H. Silverman,  
{\it The Arithmetic of Dynamical Systems},  
Springer-Verlag, New York  
(2012).  
....

# BibTeX

- Alternatively you can use BibTeX
- Example: to add the bibliography of a BibTeX file references.bib in an article a common command is

```
\bibliographystyle{apsrev4-1}  
\bibliography{references}  
\end{document}
```

# Article (BibTeX)

```
@article{millan2020explosive,  
  title={Explosive higher-order Kuramoto dynamics  
on simplicial complexes},  
  author={Mill{\'}{a}n, Ana P and Torres,  
Joaqu{\'}{\i}n J and Bianconi, Ginestra},  
  journal={Physical Review Letters},  
  volume={124},  
  number={21},  
  pages={218301},  
  year={2020},  
  publisher={APS}  
}
```

# Book (BibTeX)

```
@book{ghrist2014elementary,  
  title={Elementary applied topology},  
  author={Ghrist, Robert W},  
  year={2014},  
  publisher={Createspace Seattle}  
}
```

# Standard material

In a project, you are likely to be using standard material from, say, a textbook.

To incorporate such a material in a single citation, use expressions such that

- ‘For background material, see [4].’
- ‘All theorems quoted below belong to standard ultrametric analysis. See [21] for details.’

For specific results, one may then employ targeted citations to the above sources.

- ‘**Theorem A** ([4, Theorem 4.2]).’
- ‘We now state Hensel’s lemma [21,Chapter 3].’

# Citing a paper not yet published

Most mathematics/physics papers are uploaded on the arXiv database, prior to publication.

To cite and ArXiv publication use the ArXiv ID number, i.e.

[arXiv:1711.02859 \[pdf,ps,other\]](#)

The regularity of the linear drift in negatively curved spaces

Francois Ledrappier, Lin Shiu

Subjects: Dynamical Systems (math.DS); Probability (math.PR)

**L<sup>A</sup>T<sub>E</sub>X:**

```
\bibitem{LedrappierLiu}
F Ledrappier and L. Shiu,
The regularity of the linear drift in negatively
curved spaces,
arXiv:711.02859 (2017).
```

Before citing an arXiv source, make sure that the paper has not been published yet. If so, you must cite the published version.

# Citing internet sources

- Avoid citing internet sources: the fewer, the better.
- If you cite an internet source, then add the page's URL and a date.
- In published academic articles, Wikipedia is **never** used in the bibliography section! In a project this is barely tolerated, but it won't look good.
- Consult the reference section of a Wikipedia page as a basis of further exploration, and for more respectable references.



# Images and other media

You must not take other people's images (or video clips) without permission from the author/publisher.

Check the copyright section of the paper

In addition, the source must be cited.

# Weighted Multiplex Networks

Giulia Menichetti<sup>1</sup>, Daniel Remondini<sup>1</sup>, Pietro Panzarasa<sup>2</sup>, Raúl J. Mondragón<sup>3</sup>, Ginestra Bianconi<sup>4\*</sup>

**1** Department of Physics and Astronomy and INFN Sez. Bologna, Bologna University, Bologna, Italy, **2** School of Business and Management, Queen Mary University of London, London, United Kingdom, **3** School of Electronic Engineering and Computer Science, Queen Mary University of London, London, United Kingdom, **4** School of Mathematical Sciences, Queen Mary University of London, London, United Kingdom



## Abstract

One of the most important challenges in network science is to quantify the information encoded in complex network structures. Disentangling randomness from organizational principles is even more demanding when networks have a multiplex nature. Multiplex networks are multilayer systems of  $N$  nodes that can be linked in multiple interacting and co-evolving layers. In these networks, relevant information might not be captured if the single layers were analyzed separately. Here we demonstrate that such partial analysis of layers fails to capture significant correlations between weights and topology of complex multiplex networks. To this end, we study two weighted multiplex co-authorship and citation networks involving the authors included in the American Physical Society. We show that in these networks weights are strongly correlated with multiplex structure, and provide empirical evidence in favor of the advantage of studying weighted measures of multiplex networks, such as multistrength and the inverse multiplicity ratio. Finally, we introduce a theoretical framework based on the entropy of multiplex ensembles to quantify the information stored in multiplex networks that would remain undetected if the single layers were analyzed in isolation.

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\* E-mail: ginestra.bianconi@gmail.com

# To cite or not to cite

- Cite all relevant references.
- If you cite a paper you must read it!
- Do not cite a source just because someone else cites it.
- Do not copy and paste a reference from another paper.  
(The presence of recurring typos in the scientific bibliography has been recorded.)
- If in doubt, give a citation.
- If still in doubt, double-check with your supervisor.

# Additional material

For further information on plagiarism, consult the page

[http://www.ox.ac.uk/students/academic/guidance/skills/  
plagiarism](http://www.ox.ac.uk/students/academic/guidance/skills/plagiarism)

(all one line with no spaces)

**DON'T PLAGIARISE!**