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A.A. 2020-2021

Corso di Laurea Magistrale in GEOSCIENZE

Metodi Elettromagnetici in Geofisica (6 CFU) - MEMAG -

A scientific paper

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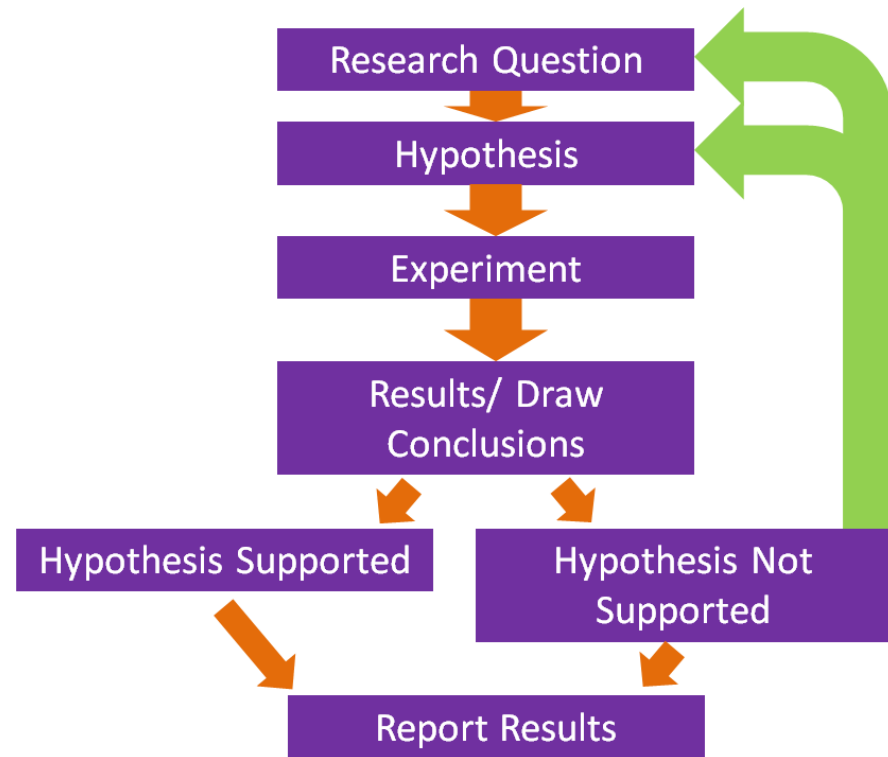
What is a scientific paper?

DEFINITION: a written and published report describing original research results

An organized description of hypotheses, data and conclusions, intended to instruct the reader.

- Your objective in research is to formulate and test hypotheses, to draw conclusions from these tests, and to teach these conclusions to others.

- Essential to understand the hypotheses (goals) while collecting data.

- To develop hypotheses towards a high quality publication a complete understanding of current literature in your research field is critical, but essential

- Something that adds a small brick to the global knowledge

Remember that: interesting and unpublished is equivalent to non-existent!

Research Question → Hypothesis → Experiment → Results/ Draw Conclusions → Hypothesis Supported / Hypothesis Not Supported → Report Results

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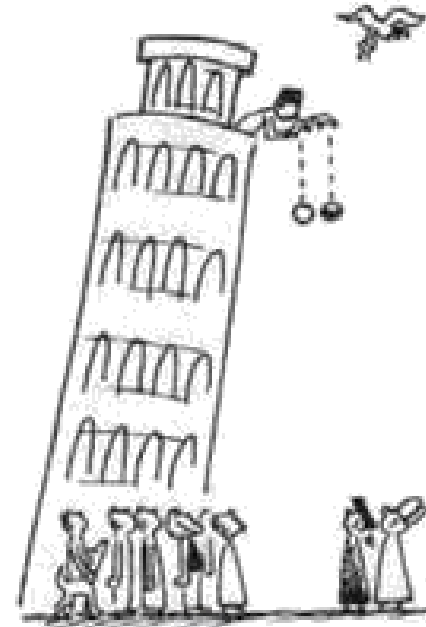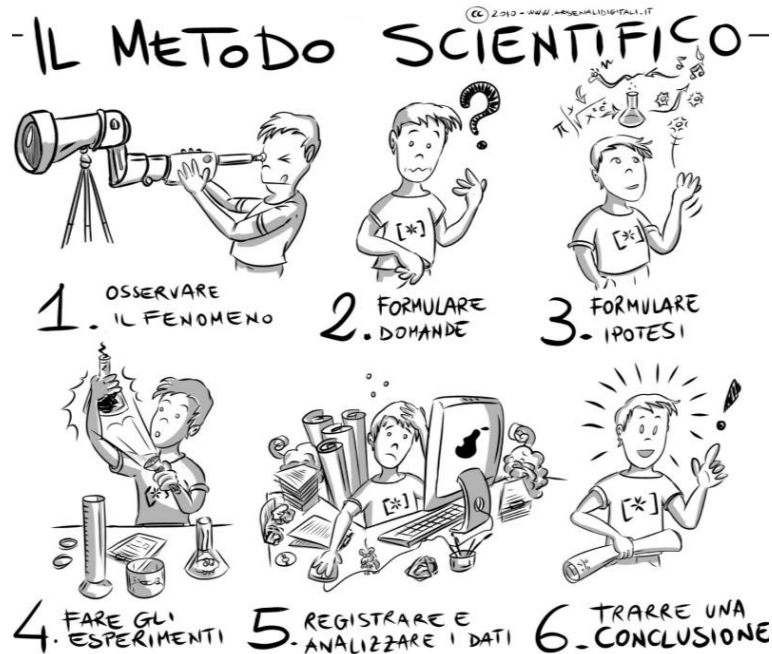
What is a scientific paper?

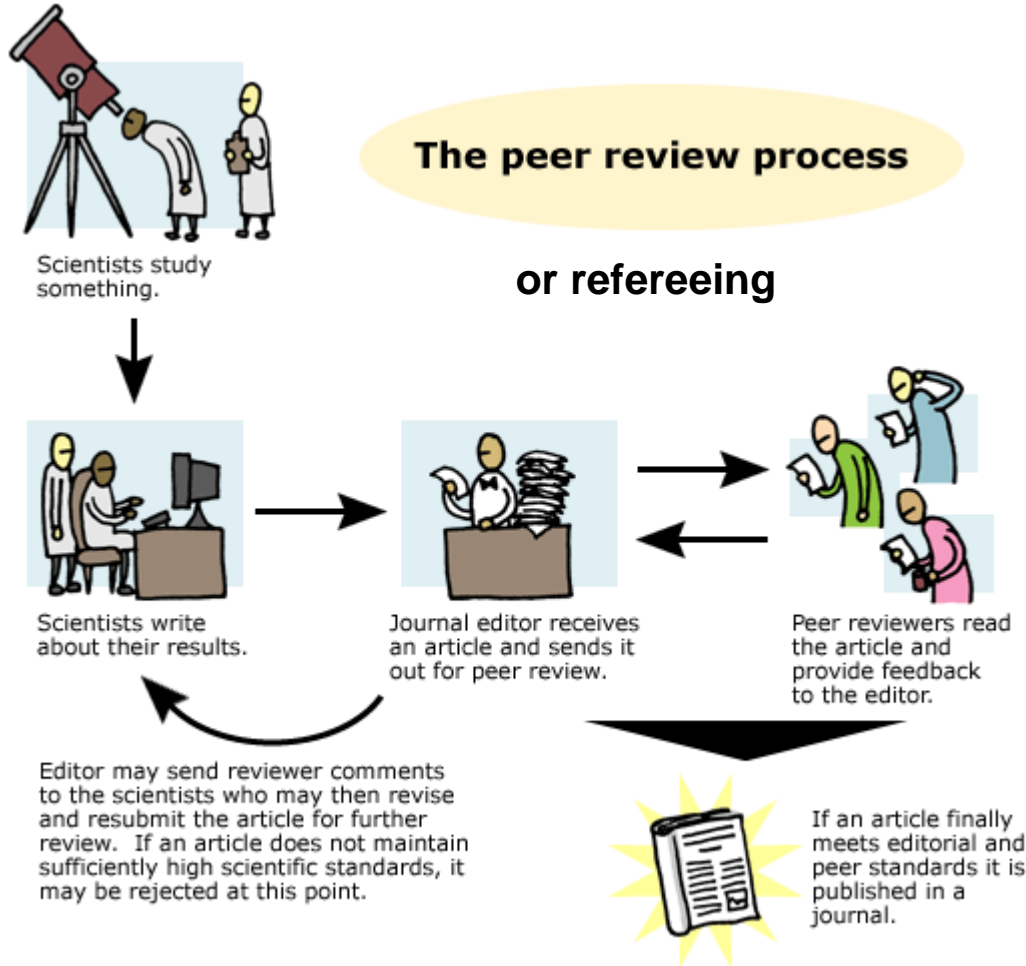Some BASIC CONPEPTS:

• Try and errors

• Replicable data

Data replicability simply means that it is possible for an experiment to be carried out again, either by the same scientist or another.

Galileo Galilei started to use **experiments as a research tool**.

"Mathematics is the alphabet with which God has written the universe"…

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The revision mechanism

The peer review process

or refereeing

Scientists study something.

Scientists write about their results.

Journal editor receives an article and sends it out for peer review.

Peer reviewers read the article and provide feedback to the editor.

Editor may send reviewer comments to the scientists who may then revise and resubmit the article for further review. If an article does not maintain sufficiently high scientific standards, it may be rejected at this point.

If an article finally meets editorial and peer standards it is published in a journal.

PROS
- *It should assure an actual evaluation about the scientific value of the paper*
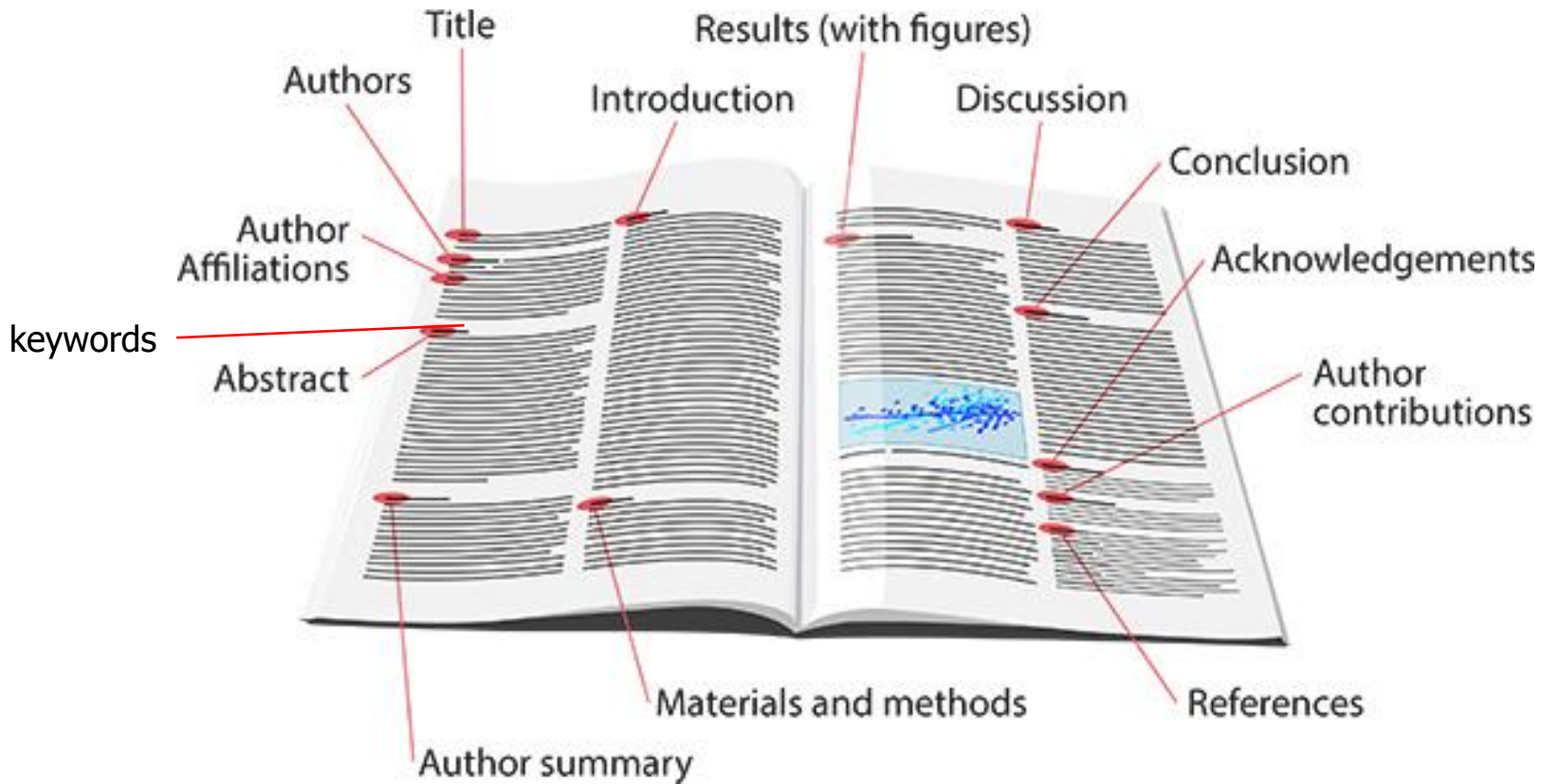- *Peer-reviewed articles provide a trusted form of scientific communication*

CONS
- *Review is often a long process*
- *Publishing can be expensive*
- *Unexpected ideas can be (at first) rejected*

NO Conflict of interests
NO economical interests
NO principle of authority (ipse dixit)

Open assess or not?

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Wow is organized a scientific paper?

NO plagiarism!
NO fake data!
NO cancel out data!