

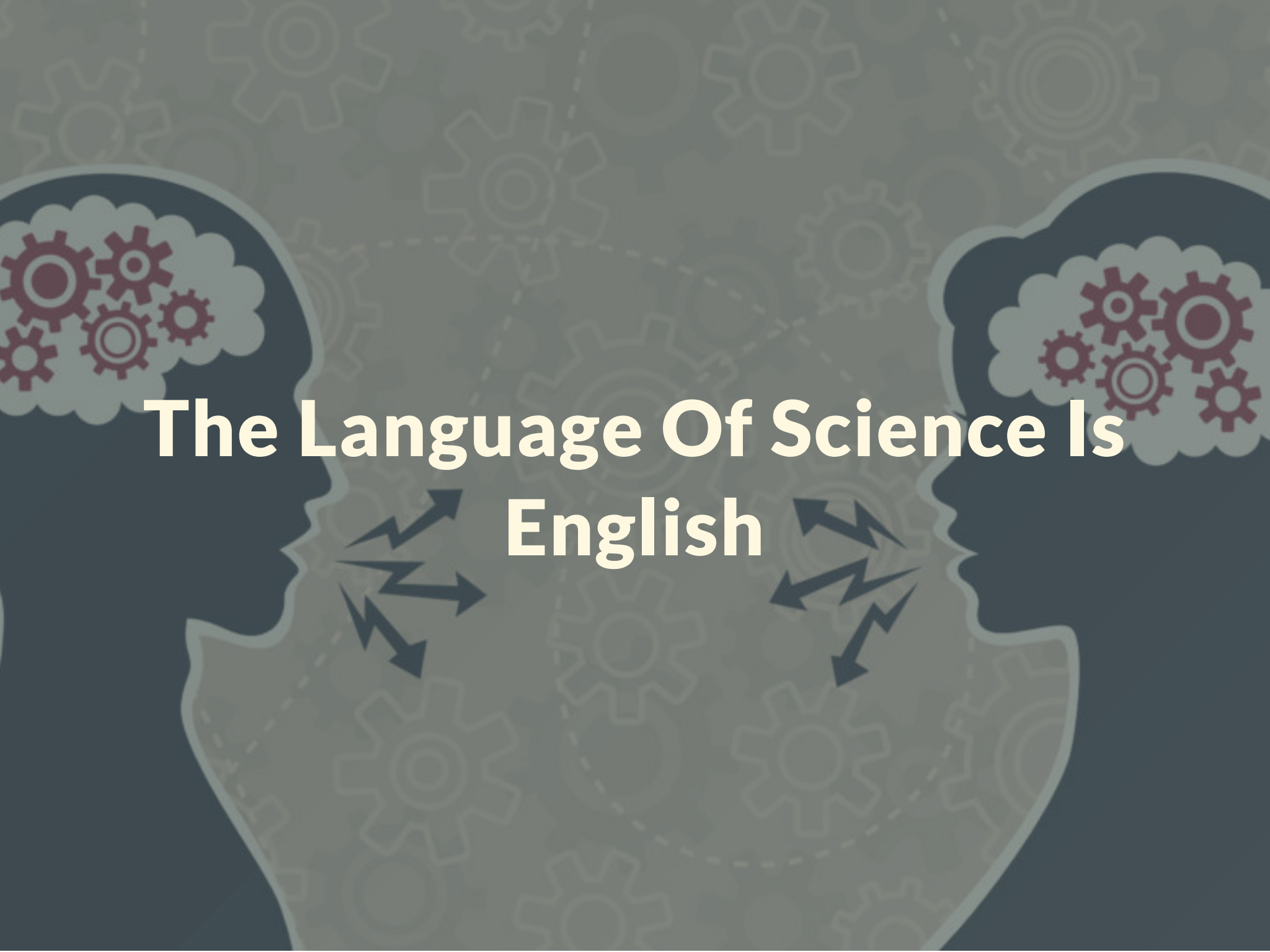
# **Introduction to Bioinformatics Scientific (Biomedical) Literature**

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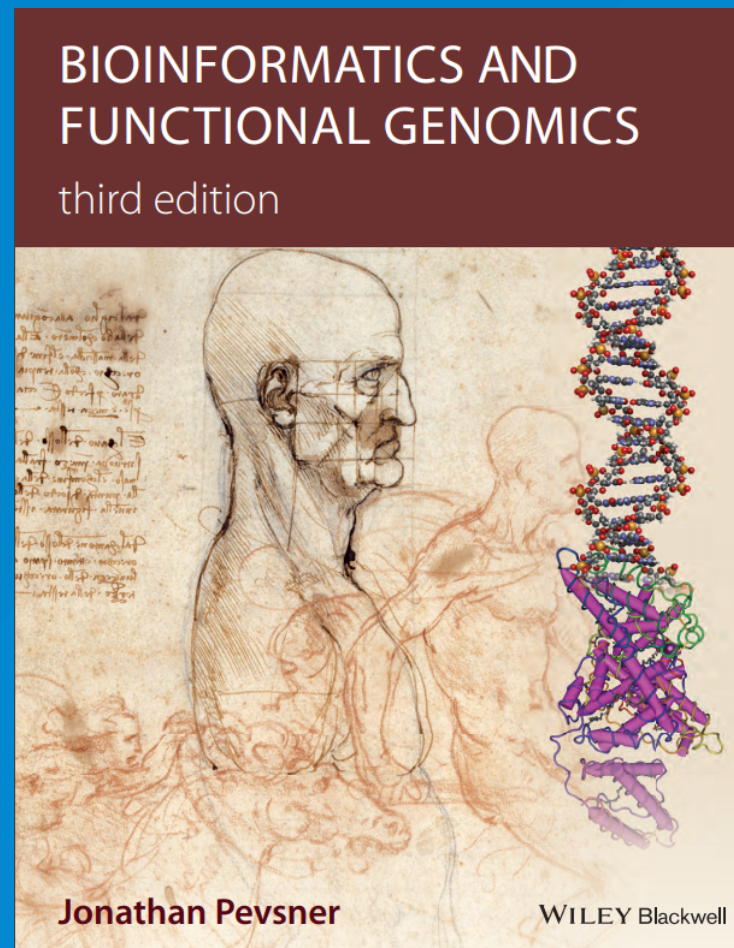
**Earlham Institute (UK)**



**The Language Of Science Is  
English**

# Suggested reading

Jonathan Pevsner: BIOINFORMATICS AND FUNCTIONAL GENOMICS



# Types of scientific publications

- scientific articles published in scientific journals
- patents
- books wholly written by one or a small number of co-authors
- edited volumes
- presentations at academic conferences
- government reports

## Scientific articles published in scientific journals

- research papers
- case reports
- technical notes
- pictorial essay
- review
- commentary
- editorials
- letters
- nonscientific material



# Manuscript

# Manuscript

- The Final product of research
- Documentation - Should be reproducible
- “ Publish or perish ”
- Smallest publishable unit of a project
- Need for degree, grant, job

# Manuscript - Research paper

- Title
- Names and affiliations of all authors
- Abstract
- Introduction
- Methods and Materials
- Results
- Discussion
- References



# How to read a research paper

1. Title (authors)
2. Abstract
3. Results
4. Methods and Materials - if you want to reproduce
5. Discussion, Introduction - if you have many time

# Manuscript - Authors

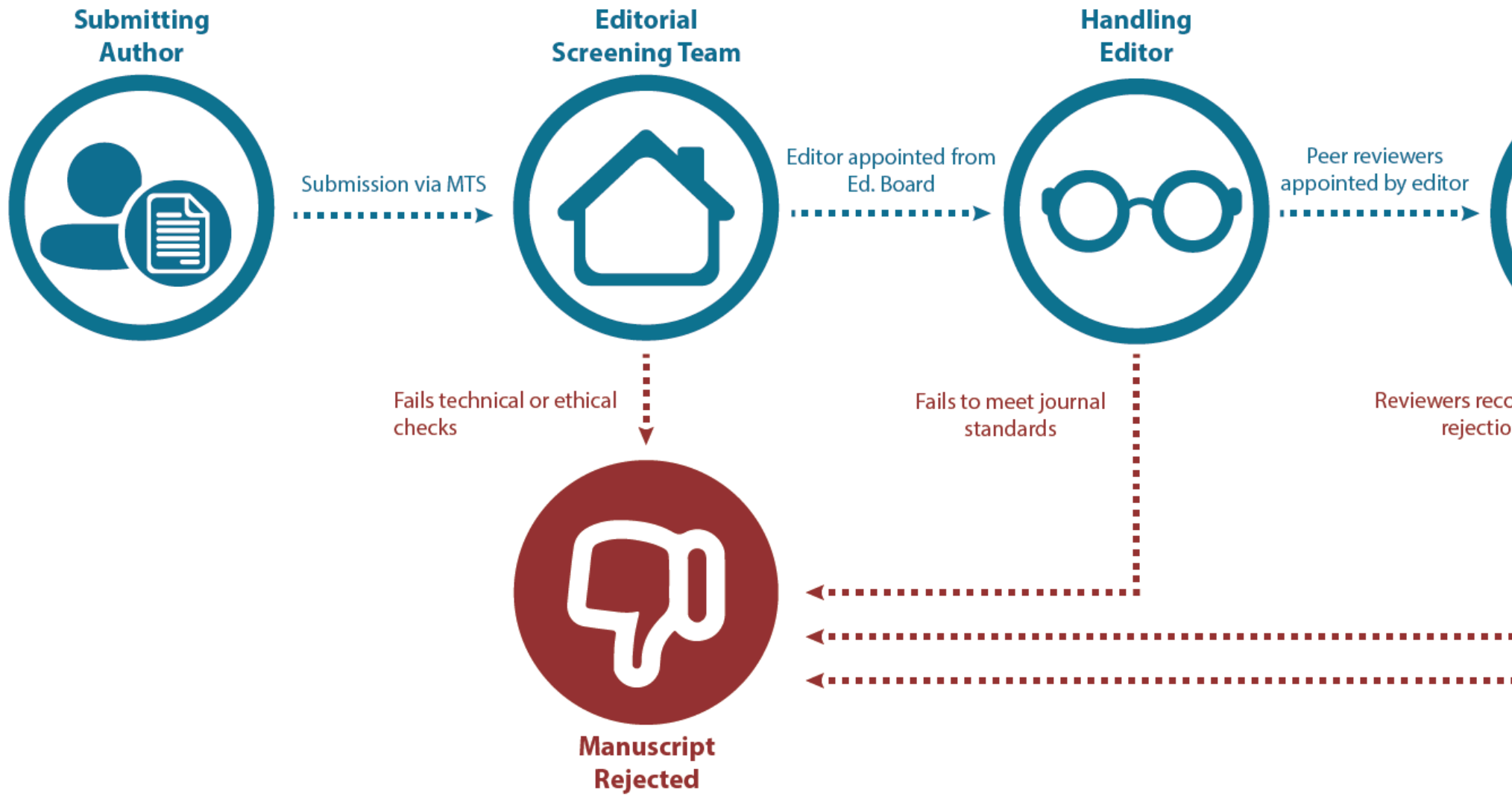
- Life science is teamwork
- Order of authors
  - First author(s) - real author (work)
  - Last author(s) - everybody else (helper)
  - Middle authors - PI (money)
- Usually 1-3 first author
- Consortium

# The peer review

# Einstein versus the peer reviewer

1936

NAME	DATE IN	REFEREE	DATE IN	TO AUTHOR	TO N.Y.	ISSUE	RE-JECTED
Shimony	5/24	Lepton 6/4	6/8				6/12
Einstein & Rosen	6/1	Robertson 7/6	7/17	7/23			
Oppenheimer	5/20				4/14	MAY 15, 1936	
Wasserman & Tolman	2/28		4/16	4/9	4/17/36	JUNE 15, 1936	







# Journals

WEEKLY ILLUSTRATED JOURNAL OF SCIENCE

# Journals

- **1665 Journal des s<sup>ç</sup>avans, Philosophical Transactions of the Royal Society**
- ~40,000 journals
- 1.4 million papers per year
- Impact Factor (IF)
- Cost
  - The readers pay
  - The authors pay - Open Access



# Online libraries

- PubMed - NIH
  - Title, authors, abstract
  - 29 million paper
- PubMedCentral
  - Full text
- Scopus
- Web of science
- Google Scholar

# Access to scientific paper (full text)

- Open Access - just read
- University/Institute account
- Google Scholar (full text from authors webpage)
- Ask from the authors !!!
- ...
- SciHub ???