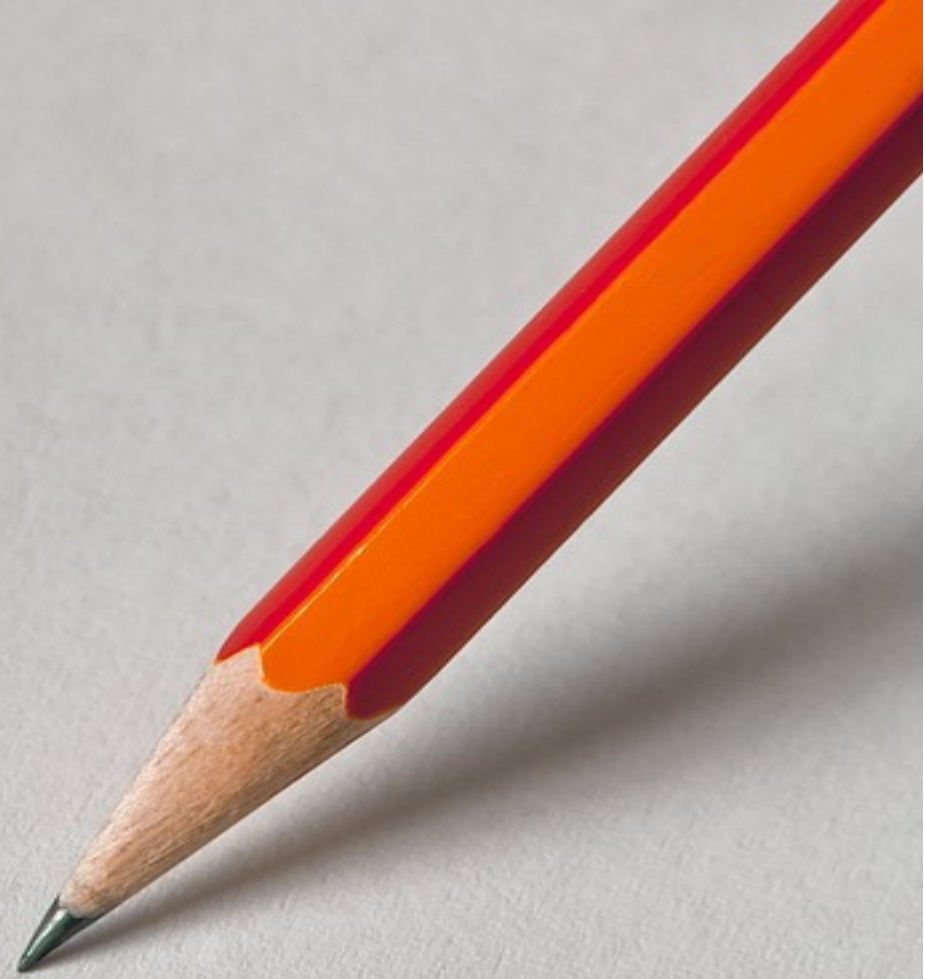
Reviews in Quantitative Biology



Introduction

Natasha Glover

2 Nov 2023

Time	Topic
11:00-11:05	Welcome
11:05-12:05	Guest presentation
12:05-12:20	Break
12:20-13:00	Introduction to course + Q&A

How many people…

- Know what is a review?
- Have read a review?
- Have written a review?
- Have published a review?

Course in a nutshell

Hear a
Write a
Evaluate a

} **Review**

Course in a nutshell

- 3 guest lectures
  - Dr. Diego Hartasanchez Frenk: PRDM9, what is it that you do?
  - Dr. David Moi: Ecological networks and metagenomics
  - Dr. Narjes Yousefi: Genome architecture in 3D space
- You will work in groups to write a review on one of the topics presented or,
- You will work individually to write a review on your PhD topic

Guest Lecture

Dr. Diego Hartasanchez Frenk

What exactly is a review?

- A scholarly article that synthesizes and analyzes the literature on a specific topic
- Provides an overview of the current understanding, identifies trends, highlights significant findings, and discusses the main methodologies and approaches within the field
- Summarizes and evaluates research that has already been published
- Offers a comprehensive background for readers who wish to get informed about the state of research on a given subject
- Often used to identify gaps in knowledge and set the context for further research

Why review the literature?

- Discover and learn new topics
- Identify relevant research questions
- Build upon existing work

Why write a review?

- Introduce proposals, research plans, theses, papers…
- Improve your writing skills
- Improve your science communication skills
- Think/understand through writing

Why peer review?

- Be a good citizen
- Stay at the forefront of research
- Sharpen your critical thinking skills
- Impress the editor

Learning outcomes

- Recognize current QB topics
- Identify relevant papers
- Organize and summarize relevant work in a clear, coherent, concise, and correct review
- Provide critical and constructive peer reviews
- Improve your work from peer reviews

Organization

- Main tutorial 11am – 1pm
  - 1 hr reviews (presentations) on a special topic by an invited speaker
  - Lectures on specifics of the writing and reviewing process
  - Presence mandatory!

Assignments

Write 1 review and do 2 peer reviews

November 2023						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			11:00-13:00 Welcome + guest lectures	11:00-13:00 Guest lectures		
		1	2	3	4	5
				11:00-13:00		
6	7	8	9	10	11	12
				11:00-13:00 Turn in review paper		
13	14	15	16	17	18	19
				11:00-13:00 Turn in peer reviews		
20	21	22	23	24	25	26
				Turn in response to reviewers		
27	28	29	30			

	= Write review paper
	= Do peer review
	= Implement response to reviewers

Papers are due 2 weeks from tomorrow!

RQB 2023 Schedule

Location: see table below (or https://unil.zoom.us/my/natashaglover)

Week	Date	Location	11:00-12.00	12:00-13:00
1st	02 Nov	Génopode 2016	Dr. Diego Hartasanchez Frenk (UNIL): PRDM9, what is it that you do?	Introduction & How to write a review
1st	03 Nov	Génopode 2016	Dr. David Moi (UNIL): Ecological networks and metagenomics	Dr. Narjes Yousefi (University of Zurich): Genome architecture in 3D space
2nd	10 Nov	Génopode 2016	Writing science in plain English	How to do a peer review
3rd	17 Nov	Génopode 2016	Editing	Responding to reviewers
4th	24 Nov	Génopode 2016	How to get published	TBA

Co-authoring reviews

- Reviews are written in groups
- Include a statement of author contribution at the end, e.g.:

  JS wrote most of the introduction and section on PPI network and produced Table 1. CD wrote most of the section on regulatory network and produced the figures.

Writing an independent review

- You **must** get your advisor (or postdoc in your lab) to agree to review your paper

Manuscript

- Quality matters more than quantity, but ~2000 words is a typical length.
- Write with Google Docs + Paperpile (*recommended*)
- Initially submit as a PDF only with a References section and any images and tables.
- Submit revised version as a PDF with a cover letter addressing the referees' criticisms.

Course homepage

- https://lab.dessimoz.org/teaching/rqb/
  - Course details
  - Schedule
  - Slides
- Article management webpage (EasyChair): https://easychair.org/my/conference?conf=rqb22

Authorship according to Genome Biology

To qualify as an author one should:

1) Have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;

2) Have been involved in drafting the manuscript or revising it critically for important intellectual content; and

3) Have given final approval of the version to be published.

4) Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.

http://genomebiology.com/authors/instructions/method

Share credit with lecturer

- Reviews written in this course heavily draw from the presentation.
- Thus, the speaker is typically listed as last author on your submission.
- Note that if this was a *real* submission, the other two requirements would also need to be fulfilled.

Some success stories

Review | Open access | Published: 20 November 2019

Structural variant calling: the long and the short of it

Medhat Mahmoud, Nastassia Gobet, Diana Ivette Cruz-Dávalos, Ninon Mounier, Christophe Dessimoz & Fritz J. Sedlazeck

Genome Biology **20**, Article number: 246 (2019) | Cite this article

69k Accesses | **245** Citations | **101** Altmetric | Metrics

When less is more: sketching with minimizer in genomics

Malick Ndiaye[1+], Silvia Prieto Baños[2,3+], Lucy M. Fitzgerald[2+], Ali Yazdizadeh Kharrazi[2,3], Sergey Oreshkov[4], Christophe Dessimoz[2,3], Fritz J Sedlazeck[5], Natasha Glover[2,3*], Sina Majidian[2,3*]

[1]Department of Fundamental Microbiology, UNIL, Lausanne, Switzerland; [2]Department of Computational Biology, UNIL, Lausanne, Switzerland; [3]SIB Swiss Institute of Bioinformatics, Lausanne, Switzerland; [4]Department of Endocrinology, Diabetology, Metabolism, CHUV, Lausanne, Switzerland; [5]Baylor College of Medicine, Houston, USA.

+ authors contributed equally

* corresponding authors

HGG Advances

CellPress

Volume 3, Issue 2, 14 April 2022, 100100

Review

From pharmacogenetics to pharmaco-omics: Milestones and future directions

Chiara Auwerx [1 2 3 4 5], Marie C. Sadler [2 3 4 5], Alexandre Reymond [1], Zoltán Kutalik [2 3 4]

My expectations

- Demanding tutorial
- Presence and participation on Fridays
- Strong commitment to both review paper and peer-review
- Intellectual honesty: no plagiarism nor fabrication!

Your expectations

- What do you expect from this course?
- What topics do you want to learn about in the paper-writing process?
- Questions, concerns?