

MBIO4030, Lab Slot 23, Thursday November 28

Final manuscript rubric

Topic	Excellent (5-4)	Satisfactory (3-2)	Needs improvement (1)	Weight
Abstract	Clearly states problem and question to be resolved; clearly summarizes method, results, and conclusion.	Summarizes problem, method, results, and conclusions but lacks some details.	Is vague about the problem; does not provide a summary of the whole project.	✘ 1
Introduction	Provides background research into the topic and summarizes important findings from the review of the literature; describes big picture of the study; explains the significance of the problem.	Provides some background research into the topic and describes the study.	Provides some background research into the topic but does not indicate how the study fits in to a bigger picture.	✘ 4
Methods	Logical & easy-to-follow description for all experiments. All important information is provided with no extraneous information.	Mostly easy-to-follow description of experiments. Some information is missing and/or extraneous detail is present.	Description is hard to follow. Missing important information and/or extraneous detail is prevalent.	✘ 2

Topic	Excellent (5-4)	Satisfactory (3-2)	Needs improvement (1)	Weight
Results	Provides complete explanation of data and results.	Explains data and results with some aspects lacking detail.	Lacks description of data and results.	✕ 2
Discussion	Summarizes and interprets results. Findings are in context of prior research. Provides an analysis of possible weaknesses, broader implications and prospects for future.	Summarizes results, with some interpretation. Majority of discussion is reiterating results, with some analysis of weakness, broader implications and prospects for future.	Results are reiterated, with little critical analysis in the context of prior research or future directions.	✕ 3
Figures and Tables	Each tell a single self-contained story. Data is presented accurately and effectively.	Data is presented accurately. Some ineffective or improper presentation or formatting.	Data is presented inaccurately. Tables are improperly formatted or unnecessary.	✕ 2

Topic	Excellent (5-4)	Satisfactory (3-2)	Needs improvement (1)	Weight
Citations, references, formatting	References are sufficient in number, Proper formatting in-line and in the references section.	Some references are provided. Mostly proper formatting in-line and in the references section.	Few references are provided. Improper formatting in-line and/or in the references section.	✗ 2
Organization and Writing style	Well planned structure, written in an engaging, interesting style. Strong paragraph structure. No grammatic errors.	Some organization and structure. Style is competent though not engaging or inventive. Few grammatical errors.	Organization is unpredictable, paragraphs poorly structured. Lacks control over sentence structure, difficult to follow. Many grammatical errors.	✗ 3
Response to reviews	Significant revision was done. Reviewer suggestions were incorporated.	Some revision was made. Most reviewer suggestions were incorporated.	Little revision was done. Few suggestions were incorporated.	✗ 1

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Titles & Abstract



Painting 43

Titles

Titles are hard

They function as an advertisement for your paper.

- Brief
- Clear
- Informative
- Engaging

Styles of titles

- The assertive sentence title

Widespread genetic incompatibilities between first-step mutations during parallel adaptation of *Saccharomyces cerevisiae* to a common environment.

Styles of titles

- The assertive sentence title

Widespread genetic incompatibilities between first-step mutations during parallel adaptation of *Saccharomyces cerevisiae* to a common environment.

- The colon title ("General issue: more specific point")

Silencing is noisy: Population and cell level noise in telomere-adjacent genes is dependent on telomere position and Sir2.

Styles of titles

- The assertive sentence title

Widespread genetic incompatibilities between first-step mutations during parallel adaptation of *Saccharomyces cerevisiae* to a common environment.

- The colon title ("General issue: more specific point")

Silencing is noisy: Population and cell level noise in telomere-adjacent genes is dependent on telomere position and Sir2.

- The funny title

Small is the new big: Assessing the population structure of microorganisms.

Styles of titles

- The assertive sentence title

Widespread genetic incompatibilities between first-step mutations during parallel adaptation of *Saccharomyces cerevisiae* to a common environment.

- The colon title ("General issue: more specific point")

Silencing is noisy: Population and cell level noise in telomere-adjacent genes is dependent on telomere position and Sir2.

- The funny title

Small is the new big: Assessing the population structure of microorganisms.

- The question title (apparently not common in microbiology)

Measuring edge effects on nest predation in forest fragments: do finch and quail eggs tell different stories?

CJM "Highly Read"

Classification of lipolytic enzymes and their biotechnological applications in the pulping industry

Something old, something new: revisiting natural products in antibiotic drug discovery

Exploring the relationship between exposure to technological and gastrointestinal stress and probiotic functional properties of lactobacilli and bifidobacteria

Physiological traits and relative abundance of species as explanatory variables of co-occurrence pattern of cultivable bacteria associated with chia seeds

The oral cavity microbiota: between health, oral disease, and cancers of the aerodigestive tract

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CJM other

The study of intracellular and secreted high-molecular-mass protease(s) of *Trichoderma* spp., and their responses to conidiation stimuli

Delineating the origins of the multidrug-resistant pathogens in ornamental fish farms by multilocus sequence typing and identification of a novel multidrug-resistant plasmid

Quantitative PCR enumeration of *vcgC* and 16S rRNA type A and B genes as virulence indicators for environmental and clinical strains of *Vibrio vulnificus* in Galveston Bay oysters

How to write titles that tempt Mark Johnston (EIC *GENETICS*)

1 - Don't bury the lede: Start with the topic of the paper, not with the name of the gene or organism you studied.

“Fibulin-1 interacts with type IV collagen and antagonizes GON-1/ADAMTS in shaping the *C. elegans* gonad” vs.

“Shaping of tissue architecture in the *C. elegans* gonad by interactions among fibulin-1, type IV collagen, and the ADAMTS extracellular protease”

How to write titles that tempt Mark Johnston (EIC *GENETICS*)

2 - Entice the reader: Make what you learned seem exciting.

“Transcriptome and Genetic Analyses Reveal that Abc1 and Def2 are Required for Glucagon Secretion” vs.

“Glucagon secretion requirements revealed by transcriptome and genetic analysis of glucagon-producing cells.”

How to write titles that tempt Mark Johnston (EIC *GENETICS*)

3 - Avoid jargon

"FLP-21/NPR-1 Signaling and the TRPV Channels OSM-9 and OCR-2 Independently Control Heat Avoidance in *Caenorhabditis elegans*" vs.

"Regulation of Heat Avoidance in *Caenorhabditis elegans* by Peptide Signaling and Transient Receptor Potential (TRP) Channels."

How to write titles that tempt Mark Johnston (EIC *GENETICS*)

4 - Be concise: expect an attention span of 12 words

"The Maize *Zea mays stunter1* Mutation Causes a Reduction in Gametophyte Size, Has Maternal Effects on Seed Development, and Reveals that Endosperm Development is not Essential for Early Embryo Development" vs.

"Effects on gametophyte development in maize of a maternal effect mutation in *stunter1*."

How to write titles that tempt Mark Johnston (EIC *GENETICS*)

5 - Don't give away the ending. (Oops)

"MCM-related precondition gene mei-218 inhibits lig4-dependent repair and promotes checkpoint activation during *Drosophila* meiosis" vs.

"Multiple barriers to non-homologous DNA end joining during meiosis in *Drosophila*."

Abstracts

GOAL:

Summarize the paper, typically in 150-400 words
(CJM – 200 words maximum)

Standalone paragraph, typically mini-IMRaD structure

They are open-access, even when papers are behind a paywall

Often the primary determinant of whether someone will read
your manuscript

Abstracts

Includes:

Topic -> Research Question -> Methods -> Results -> Conclusion

Does not include:

Detail about every single thing you did

New information

References

Graphs or tables

Abbreviations

Adapted from Purdue Online Writing Lab

Anne Marie Helmenstine, How to Write an Abstract for a Scientific Paper

Abstract “formula”

- 1) Introduction: what is the topic?
- 2) What is the key research question/problem?
- 3) Summarize that gap in the literature
- 4) Explain how you tackled the research question
- 5) What method did you use?
- 6) What is the key impact/big result of your research?

Abstract “formula”

- 1) Introduction: what is the topic? **A**
- 2) What is the key research question/problem?
- 3) Summarize that gap in the literature **B**
- 4) Explain how you tackled the research question
- 5) What method did you use? **T**
- 6) What is the key impact/big result of your research?

Activity

1) Reflection about writing a scientific manuscript. Please turn in answers to the following questions:

a) What you found the most difficult about this assignment

b) What (if anything) you liked about this assignment

c) What I could do differently next time

d) What I should keep the same for next time

Please be honest.

2) If you haven't already done it, write your abstract! If you have a draft, revise it! Do it now and it will be done ... you can even swap with a friend sitting beside you.

3) Fill out the survey on umlearn about your experience with the peer review assignment (under assessments).