Instructions to authors

BIOS publishes several types of manuscripts:

Preliminary Report
Research Article
The Biologists’ Forum
The Student’s Forum
Book Review (Between the Bookends)

The instructions below are specific to Research Articles. Forum articles do not require an abstract, although they can have one.

Opinion pieces and Reviews should be submitted as the appropriate Forum.

There are currently no submission fees and no page charges for publication in Bios.

TITLE:
Please include the following on the first page of the manuscript:

The type of manuscript submitted (i.e. Research Article; Preliminary Report).

Title: the title of the paper should only have the first word and proper nouns capitalized.

Use “and” before the name of the last author, and include first (and last, of course) names of authors.

Please provide department, college/university, address, city, state (use 2-letter state abbreviation), and zip code for author affiliations in the text. If there are multiple affiliations, use superscripted numbers (1, 2, 3). If all authors have the same affiliation no superscripted numbers are needed.

Running head: a short running header, with only the first letter of the first word and proper nouns capitalized. Italics may be used for organism and gene names, if appropriate.

Correspondence to: e-mail address of corresponding author. Avoid Gmail or other non-professional e-mail accounts if possible (Author complete contact information will be in the bios.edmgr.com account)

Keywords: Keywords are allowed. If used, alphabetize and only capitalize the first keyword and proper nouns. Do not use words that appear in the title or abstract of the paper.
PASSIVE VOICE:
Microsoft Word may suggest otherwise, but scientific manuscripts are written using the passive voice. Rather than “We added alcohol to water”, use “Water was added to alcohol”. Avoid the first person (do not use “I”). Third person (“We”) may only be used when stating the hypothesis and the conclusion.

ABSTRACT:
The Abstract cannot contain any citations.

Maximum suggested length of abstract = 250 words. While we can print a longer abstract, some abstracting services and viewing windows cut the abstract at 200 or 250 words.

SUBHEADINGS (Level 2 headings):
Subheadings should only have the first word and proper nouns capitalized, and they are bolded.

DISCUSSION:
Please be sure the conclusions are supported by the data presented. Do not combine Results and Discussion sections unless there is little data presented. Do not over-generalize conclusions.

FIGURES:
The first figure referred to in the text is “Figure 1”.

The word “Figure” should be spelled out in a sentence but is abbreviated as “Fig.” when in parentheses.

Do not use borders or boxes around figures.

Only the first letter of the first word and proper nouns should be capitalized in figure labels and legends. The figure title is often the conclusion that can be drawn from the figure; avoid very general titles. The description can include details so that the reader can interpret the information displayed.

Use panels when appropriate. Label panels with lower case letters (a, b, c).

Consider the balance of figures and tables to text in your manuscript. A three-page paper should almost never contain five figures. Use multi-panel figures, reduce the number of figures, or increase the explanation. While Bios does not have a limit on the number of figures (or the amount of text), we encourage concise language. Because Bios is targeted at undergraduate biology majors and faculty, however, we encourage figures that illustrate experimental setups when appropriate (for example, when the setup has been developed for the study, or when a general audience may not be knowledgeable about a method). Similarly, with a general audience in mind, jargon and terms that those outside the specific field may not now should be defined.
Figures from published works may not be used unless written permission is specifically granted for republication in BIOS, and such permission must be submitted with the manuscript. Adapted figures most likely also need permission. Permission must come from the copyright holder, typically the publisher and/or the author.

Useful, popular online resources may or may not require written permission for you to use in published works, but most have guidelines that must be followed. For example, Google Maps and Google Earth guidelines can be found at https://www.google.com/permissions/geoguidelines.html. Please be sure you are using and following current guidelines both for publication and for attribution.

COLOR FIGURES:
BIOS prints in black-and-white. If you want a figure to appear in color online at BioOne.org (it will appear in black-and-white in the printed journal), there is a charge of $85 per figure. If this is the case, please submit the file as a “color figure” when revising (when first submitting we do not pay attention to whether figures are submitted as “color” or “black and white”, and directions for paying the color figure charge will be sent to you upon acceptance of the manuscript.

TABLES:
Use essentially unformatted Word or Excel tables. Do not use color or shading – tables are set by the publisher. Colored tables are allowed if appropriate; see the “color figures” information.

Only the first letter of the first word and proper nouns should be capitalized in column and row headings.

Table legends should be included at the end of the manuscript (after the References). We will format the table and include the legend when the manuscript goes through composition.

Tables should have only a title. If there is more written information it must appear as a footnote(s) at the bottom of the table. If there is one footnote (or a footnote designating statistical significance), use a superscripted asterisk (*). If there are multiple footnotes, superscripted lower-case letters (a, b, c) or numbers (1, 2, 3) may be used. Letters are preferred except where they may be confusing to the reader.

All tables and figures must be referred to in the text.

SUPPLEMENTAL DATA:

Bios does not currently allow supplemental information; all information should be included, including raw data where appropriate. Long tables are necessary for some works (for example, for observational surveys of flora or fauna). Bios does not use Appendices; such information should be included in a figure or table, if appropriate.
CITATIONS:
Please use the style (Author, year), (Author1 and Author2, year), or (Author et al., year). “et al.” is not italicized.

Multiple in-text citations should be alphabetized and separated by semi-colons (Smith, 2013; Kelman and Kelman, 2016; Jones et al., 1999).

Please use “and” and not “&” in citations and references. Use of the ampersand (&) is discouraged except where appropriate, such as in trademarked names.

“Acknowledgments” is the preferred spelling. “Acknowledgements” is the British spelling. Style is “Acknowledgments: Text…”.

REFERENCES:
In the References section do not use italics for journal names or journal numbers. Do italicize species names.


Note: No spaces between author’s initials; “and” before the name of the last author.

Recognized or common journal name abbreviations may be used.

Use a “References” section and not a “Literature Cited” section.

NUMBERS AND UNITS
=, <, >, +: leave a space before and after the symbol

°C and %: no space between the number and the degree or percent symbol. Degree symbol is a superscripted lower case o.

Negative numbers take a minus sign (endash, or short dash) with no space between the symbol and number (ex: -20°C)

Metric units should be used unless impractical.

There should be a space between the number and the unit (ex: 1.5 mL).

To abbreviate microliters, use the Greek symbol for m and not a “u” (μL, not uL).

Use a capital L to abbreviate liters (ex: mL for milliliters).
Days may be abbreviated d; hours, h; minutes, m; seconds, sec.

In almost all cases except where impractical, spell out numbers less than twenty, but use Arabic numerals for numbers twenty and greater, and for numbers with decimal points (ex: three samples were tested, the average size was 1.6 \pm 0.2 cm, 48 samples were...). In general, avoid beginning sentences with a number, as numbers at the beginning of a sentence are spelled out (ex: Ten microliters of each sample were run on a 1.0 % agarose gel...).

Use significant figures when possible. A 1% solution could contain between 0 and 10 g of solute per 100 mL. A 1.0% solution contains between 1.0 and 1.4 g solute per 100.0 mL. For solutions made in house this will, of course, depend both upon the specific protocol and the skill of the worker, but it is strongly encouraged to use precise measurement and document accordingly.

Multiple measurements or observations are often expressed as mean plus or minus the standard error (often standard deviation). Use an underlined plus symbol in the text. Ex: 15.2 \pm 0.45 g.

STATISTICS:

“p” should be lower case and italicized, and there should be a space on either side of “<”, “=” or other symbols. Example p \leq 0.05.

The Greek symbol Chi (\chi) is created using symbol font for a lower case “c”. For a Chi-squared test, Chi may be written out or abbreviated. Include the specific type of statistical test (ex: Pearson Chi-squared test, Tukey’s test) performed.

ANIMAL SUBJECT USE:

Humane and ethical treatment of animal subjects is of the utmost importance and studies that do not have approved protocols or do not follow best practice guidelines for animal use will not be considered for publication in BIOS. When submitting the manuscript there is a question that must be answered regarding animal use and care. If no animals are used, the question is answered “N/A”. If any animals are used the question must be answered.

In the M&M, please indicate whether the study uses an approved protocol and include the protocol number or explanation if no number is assigned.

For invertebrate species or studies where IACUC protocol approval is not specifically required, a statement that Animal Care and Use Guidelines were followed should be included in the M&M (and in answer to the submission question regarding animal use).

Studies that do not follow Animal Care and Use Guidelines are not publishable in Bios.

HUMAN SUBJECT USE:
Humane and ethical treatment of human subjects is of paramount importance, and studies that do not follow approved protocols cannot be published in BIOS. When submitting the manuscript there is a question that must be answered regarding human subject use. If no human subjects are used the question is answered “N/A”. If human subjects are used the question must be answered.

In the M&M, please state that the study uses an approved protocol and include the protocol number.

USE OF CULTURED CELLS:
Many journals and funding agencies now require cell line authentication (tests to confirm a cell line is the correct species and, if possible, specific cell line, as well as tests to detect contamination by microorganisms including mycoplasma). While BIOS will not uphold the guidelines in the strictest sense, knowing that undergraduate research is not always conducted in the most scrupulous manner, statements regarding the source, upkeep, and testing of cell lines is required.

In the M&M please indicate the source of cells, and whether cells have been tested for mycoplasma. Cell lines that are known to be old (high passage number) and/or are cultured routinely in media containing antibiotics must be disclosed as such, so that readers have this information. If cells are found to be contaminated or cross-contaminated this must be disclosed.

For an example of how the ATCC informs culturists of publication guidelines, see https://www.atcc.org/~/media/PDFs/Technical%20Bulletins/tb08.ashx


GENERAL INSTRUCTIONS:
Attach a Word file (not a PDF) of the text, and attach figures as separate files. Figure legends should be included at the end of the text (after the References).

Tab-indent each paragraph in the manuscript.

Include line numbers on the submitted manuscript so that reviewers can easily reference their comments. Upon revision, unless specifically requested, do not include line numbers.

Double space the submission (1.5-line spacing is also acceptable) and use at least 12-point font. Do not use a lot of ‘fancy’ formatting. For example, section headings (Introduction, Results) should be the same size font (12 point) as the text. Do not try to copy the look of a published
paper when submitting a manuscript. Upon acceptance, the publisher will make the paper look great.

Figures should be submitted at print size (i.e., 16 or 33.5 picas wide, no taller than 49 picas high, or about 2-2/3" wide, or 5.5" wide, not to exceed 8-1/16" high).

Line art (charts, drawings, etc.) should be submitted at 1200 dpi (same as ppi). Halftone art (grayscale, b/w photographs) should be submitted at 300 dpi. Color art (whether to be printed in color or in b/w) should be submitted at 450 dpi, but no lower than 300 dpi.

If your article includes color figures please read the following: BIOS prints in black-and-white. If you want a Figure to be in color online at BioOne.org (it will be in black-and-white in press), there will be a charge of $85 per color figure. If this is the case, please submit the file as a "color figure" when revising.

Please be sure to keep your author login information current at bios.edmgr.com. If you change contact information, update it. Make sure e-mails from AllenTrack get past your filters. If you forget your password you can have it sent to you.

FREQUENTLY ASKED QUESTIONS:

Q. Should a study be presented as a Preliminary Report or a Research Article?

A. The difference lies in the amount of data collected and the amount of analysis performed. A Research Article should have enough independent repetitions for the data to be significant (regardless of whether mathematical significance is determined); if a study does not have replicates, it is a Preliminary Report. If a study has a low number of subjects, it is a Preliminary Report. A Research Article should include obvious and important controls. If an experiment is completely uncontrolled, it is probably not publishable. If an experiment is missing a control due to lack of time and/or lack of resources, it may be publishable as a Preliminary Report.

BIOS will publish negative results; most studies with this type of conclusion will be Preliminary Results.

A study where statistical analysis was performed and results are found to be not significant should be written as a Preliminary Report.

In all manuscripts, authors should be clear about the limitations of the study; in particular, if results are not significant this should be clearly stated. If a control is missing, this should be stated. The test for publication for BIOS Preliminary Results is “Should this be a part of the scientific record?”.

Q. I am an undergraduate student who has written a paper for a class. Can it be published in BIOS?
A. It depends. First, the paper cannot be published as prepared for a college class. It will have to be rewritten into an acceptable style, probably for The Student’s Forum. Talk to a faculty member and ask if s/he thinks the paper is publishable. The Bios Editor can be emailed for an opinion, as well (attach the paper). A paper of very limited scope is probably not publishable. An opinion that is widely held and has been previously published (i.e. a paper written on a popular topic for a lower-level class) is probably not publishable. A paper that is well-researched (with citations), describing an opinion or conclusion that follows logically from the well-organized material presented, may be suitable for publication.

Q. I am an undergraduate who has written a review of the literature. Can it be published in Bios?

A. In general, Bios reviews are written by PhD scientists or advanced graduate students and published in The Biologists’ Forum. Some reviews are co-authored by undergraduate students and scientists. Reviews that are solely authored by undergraduates are discouraged unless carefully supervised by a faculty mentor (which usually is enough work that the faculty member is a co-author), as it is our experience that undergraduate-authored reviews are rejected (they usually do not include a thorough survey of the literature). Bios reviews can be narrow in scope; the title should reflect this.

Q. What is the deadline for submission?

A. There are no deadlines for submission. All submissions go through review.

Q. What is the timeline for submission? When will my paper be reviewed, accepted, or appear in print?

A. Please be patient. Bios is the only journal in the world devoted to undergraduate life science research, but Bios is produced with only a part-time Editor and a part-time Copyeditor. The entire process of submission, review, and publication typically takes a year. Any time the paper requires the Editor’s attention (upon submission, when reviews come in, and upon revision), it will take several weeks, as there’s only one of me, and, usually, dozens of manuscripts in process. Review typically takes 8-10 weeks. Bios reviewers are usually college/university faculty, and sometimes they’re busy teaching or grading. Many submissions are made at the ends of semesters, and that makes for bottlenecks in processing.

Q. Can I get a quick decision on my submission? I’m applying to (graduate, medical, other) school and need to know.

A. Possibly. If you know you need a decision in a particular timeframe, please include that in the cover letter with your submission. We’ll do the best we can. If the submission requires quick review for timeliness of the topic, include this in the cover letter.
Q. I’m a faculty author and need a quick review because I’m up for tenure, or, I need information sent to my tenure committee about Bios.

A. Include this in the cover letter, please. If you know you will need a letter regarding your publication history or (reviewer) service to Bios, send an e-mail to the Editor. I am contacted fairly often by tenure committees asking for details about Bios, and I do my best to reply promptly.

Q. I would like to review papers for Bios. How do I do that?

A. Thank you. Bios is always in need of more reviewers. Reviewers should hold an advanced degree (PhD or MD), and usually have a US affiliation. Graduate students can review papers under the supervision of their research mentor (e-mail me with your specifics). Send your CV or resume to the Editor (Lori.Kelman@montgomerycollege.edu). Once approved, create an author login, and I will promote you to reviewer status. Tell your spam filter to allow e-mails from AllenTrack so you don’t miss the auto-generated review requests. Sometimes words contained in Abstracts (included in the review request) cause requests to go to spam folders/filters.

Q. Why did the reviewers (or Editor) suggest a change to the title of my paper?

A. The title should state the specific scope of the work. Use an accurate and concise title. Avoid vague titles (The effect of light on animal cells) or over-generalized titles (the effect of X on trees in North America). Often, the conclusion of the study is a great title (Treatment with A causes a 10-fold increase in B in C cells).