

inquire

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UNDERGRADUATE RESEARCH JOURNAL
of The University of Alabama at Birmingham

Manuscript Guidelines for Authors

2016–2017

Our intention in providing these guidelines is to make the submission and review process more efficient for authors, reviewers and *Inquire* board members. Your adherence to these guidelines is very much appreciated. If anything is unclear or if you have any additional questions, please direct them to inquire@uab.edu. We look forward to receiving your submissions.

Best wishes,

Maggie Collier

Josh Purvis

Inquire Chief Editors 2016–2017

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1 Types of Submissions

1-1 Short Report

A short report should give a concise overview of an original research project. It should cover background information only as strictly necessary and should briefly summarize the methods utilized and the results obtained. Short reports are comparable in content to a well-developed scientific poster. The suggested length for a short report is 1,000–2,000 words. All short reports will be reviewed in a double-blind fashion by a member of the UAB faculty who is an expert on the topic.

1-2 Research Manuscript

A research manuscript should give a substantial description of an original research project. It should thoroughly address background information and should include detailed discussions of the methods utilized and the results obtained, as well as a discussion of the authors' interpretation of their results and their importance to the relevant field. The suggested length for a long paper is 2,500–4,000 words. All research manuscripts will be reviewed in a double-blind fashion by a member of the UAB faculty who is an expert on the topic.

1-3 Thesis

A thesis is similar to a research manuscript and should therefore be of similar length and content. Students participating in undergraduate programs that require a thesis are encouraged to submit their work. The suggested length is 2,500–4,000 words. If a thesis has been approved by a committee of expert faculty members prior to submission, the thesis may not require faculty review before being considered for publication.

1-4 Literature Review

A literature review should give a comprehensive, up-to-date, and concise summary of the state of knowledge on a specific technical topic and should establish the importance of the topic and its relevance to the broader scientific community. The review should identify any knowledge gaps in the literature and make suggestions about how they might be resolved while also critically examining sources to identify flaws or biases. The review should be driven by the author's own thesis, conclusions, and/or interpretations (i.e., the author's "voice") on the topic while using rigorous support from the evidence in the literature. The suggested length for a literature review is 1,000–4,000 words. All literature reviews will be reviewed in a double-blind fashion by a member of the UAB faculty who is an expert on the topic.

1-5 Research Narrative

A research narrative is a short submission written in editorial or narrative style. The content of the narrative should relate to the author's personal experiences with scientific research. These submissions will be reviewed by faculty and students and will be considered based on the relevance of the content and the quality of the writing. The suggested length for a research narrative is 600–1,000 words.

1-6 Other Proposals

In addition to the five formats described above, anyone wishing to submit work to *Inquire* is invited to propose a novel format. Please send a detailed and thorough proposal for the topic and format (e.g., an analytical paper on policies or economics in science, or an executive summary of an engineering project) to inquire@uab.edu.

2 Submission Instructions and General Formatting Guidelines

2-1 How to submit

Links to submission forms for all submission types can be found on the *Inquiro* website at www.uab.edu/inquiro/submission-guidelines. The direct link is <http://goo.gl/forms/GyyjHj5VzV>. Please read the instructions carefully and ensure that all information is complete and correct. Once you have completed the form, please e-mail your submission documents as attachments to inquiro@uab.edu. In the subject line of your e-mail, include the words “Inquiro Submission”.

Ensure that you have informed your mentor of your intent to submit your research to Inquiro and have had him or her approve of your submission. We will contact your mentor directly to indicate his or her official approval. No submission will be considered until formal approval is obtained from the mentor.

2-2 When to submit

The deadline for consideration in the 2016–2017 issue is Monday, October 17, 2016. However, early submissions are encouraged and will expedite the review process. We begin identifying reviewers as soon as submissions are received, so authors submitting early will likely have more time to improve their submissions following review.

2-3 Formatting guidelines

Please send submissions as Microsoft Word documents, double-spaced in 12 pt Times New Roman font with 1 inch margins. Include page numbers. **Do not submit the text of your submission as a PDF.**

It is your responsibility to remove all author information from the manuscript. This is critical for fair, double-blind review. The place to include author names and affiliations is on the Submission Form or in your submission e-mail to inquiro@uab.edu.

Please submit figures, tables and other graphics as a single PDF file separate from the document containing the text of the submission, using the highest resolution formats available for each graphic. All graphics should appear in the order in which they are to appear in the submission, with each item on a separate page. Include a legend or caption describing each object after the References section of the manuscript (see section 4 of this document for more detailed guidelines about preparing figures and tables). In the main text, indicate where each graphic should appear (e.g., by writing [FIGURE 1]).

3 Manuscript Sections

Short reports, research manuscripts, and theses should contain the following clearly designated sections. Short reports may combine the Results and Discussion sections if desired. The Conclusions and Acknowledgments sections are optional. Authors may include subheadings as necessary.

3-1 Title

The Title should be concise, describe the research performed, and avoid abbreviations or symbols. No special formatting should be used for the title. Only the first word of the Title and proper nouns should be capitalized. Do not include author information here or anywhere else in the manuscript. Author names and affiliations will be collected on the Submission Form.

3-2 Abstract

The Abstract should summarize the paper, focusing on the methods utilized and the major conclusions drawn from the research. A list of up to five keywords or keyphrases related to the article should be supplied immediately below the abstract.

3-3 Introduction

The Introduction should provide relevant background information that will enable the reader to understand the research presented in the article.

3-4 Materials and Methods

The Materials and Methods section should discuss the procedure(s) carried out in the experiment, including any equipment, chemicals, and biological materials used. It should include sufficient information so that the experiment could be replicated without any additional instructions.

3-5 Results

The Results section should present the outcome(s) of the experiment without comment. Use of tables and figures to present the data described in the text visually is strongly encouraged. Postpone interpretation of the data to the Discussion, unless Results and Discussion are combined into one section (more common for Short Reports than for Research Manuscripts).

3-6 Discussion

The Discussion section should provide interpretation of the data presented in the Results section. The significance of the findings should be apparent to a reader with a general science background. Discussion can also include speculation on the implications of the research or its applications to other areas of study.

3-7 Conclusions

The Conclusions section should enumerate the major findings of the study. This section should be brief and may be incorporated into the end of the Discussion rather than set apart as a separate section.

3-8 Acknowledgments

The Acknowledgements section may list individuals or organizations who supported the research, e.g. through mentorship, provision of special materials or financial assistance. This section is not required.

3-9 References

The References section should include a complete list of sources referenced in the text of the article. The list should be numbered in the order in which the references are cited in the text. (Citations should be represented as superscript numbers.) The format of the reference entries should follow the guidelines for the journal *Nature*. All authors should be included in reference lists unless there are six or more, in which case only the first author should be given, followed by 'et al.'. Authors should be listed last name first, followed by a comma and initials (followed by full stops) of given names. Article titles should be in Roman text (i.e., not italics), only the first word of the title should have an initial capital and the title should be written exactly as it appears in the work cited, ending with a full stop. Book titles should be given in italics and all words in the title should have initial capitals. Journal names are italicized and abbreviated (with full stops) according to common usage. Volume numbers and the subsequent comma appear in bold. Issue numbers should be placed in parentheses next to the volume numbers. The full page range should be given, where appropriate. The year of publication should be placed in parentheses following the page range.

For example: 2. Schott, D. H., Collins, R. N. & Bretscher, A. Secretory vesicle transport velocity in living cells depends on the myosin V lever arm length. *J. Cell Biol.* **156**(1), 35–39 (2002).

For a list of common journal abbreviations, visit:

http://www.sciencemag.org/site/feature/contribinfo/prep/res/journal_abbrevs.xhtml.

It is recommended that the software EndNote be used to generate the references list. UAB students can download this software free of charge here: <http://www.uab.edu/it/home/component/k2/item/74-endnote>

4 Guidelines for Figures, Tables, etc.

Figures and tables should be submitted in a single PDF file separate from the primary manuscript document. Legends for figures and tables should appear after the References section. See section 2-3.

Avoid redundancy in the information presented in figures and tables. Reviewers will be asked to comment on the necessity and clarity of figures.

4-1 Figures, Illustrations and Photographs

These should be original, if possible, and of the highest resolution that can be attained. JPEG, TIFF and PNG files are acceptable. **If any images are not original, the author agrees by submitting the manuscript that necessary permission has been obtained from the copyright holders to publish any images being reproduced.**

Ensure that all graph axes are labeled and include units of measurement. For photos or microscope images, include a scale bar for size reference. Figures should be high quality and legible. Adobe Photoshop and Adobe Illustrator, among other professional programs used to generate figures, are available for UAB students' use free of charge in the Digital Media Commons in Heritage Hall Room 334.

Subparts of a single figure may be labeled A, B, C, etc.

4-2 Tables

The same guidelines regarding originality apply. Ensure that all columns and rows are labeled and include units if applicable. Titles should appear in the legend, not on the table itself.

4-3 Legends

Legends should allow the reader to fully and clearly understand the figure or table independent from the text. The legend should include a label (Figure, Table, Chart, etc.) followed by an Arabic numeral followed by a vertical bar. Next should be a simple descriptive title for the item followed by a full stop. The legend components up to this point should be in bold text and in roman (non-italic) type. Additional sentences, if necessary, should be in past tense, in italic and non-bold text, and should clarify the parameters and/or significance of the information contained in the figure or table. All legend text should use the same font size as the main body text of the manuscript. Only the first word of each sentence and any proper nouns should be capitalized.

Example: **Figure 1 | Scanning electron micrograph of human mitochondria.** *[Explanation of figure....]*

4-4 Equations and Formulas

Equations and formulas should be set apart from the body of the text and numbered independently of figures and tables (i.e. **Equation 1.**, **Equation 2.**, etc.).

4-5 Quantities and units

When reporting units, please use the conventions of the International System of Units (SI). Guidelines for the SI can be found at <http://physics.nist.gov/cuu/pdf/sp811.pdf>. Briefly, you should:

- Express all measurements as a numeral followed by a space and a recognized SI unit. The unit should be expressed using roman type, e.g. “20 MHz” instead of “20 *MHz*”.
- Use negative exponents to express reciprocal units, e.g. “5 g mL⁻¹” instead of “5 g/mL.”
- Express a range of measurements using parentheses around the values or using a unit with each value. Do not use a hyphen or an en dash, e.g. “12.1 cm ± 0.2 cm” or “(20 to 22) °C” instead of “12.1 ± 0.2 cm” or “20–22 °C.”
- Use a minus sign (–) instead of a hyphen (-) to express negative quantities. The minus sign can be accessed by copying the symbol in parentheses above or by using the “Insert Symbol” function in Microsoft Word. On a Windows computer, you can also hold down the “Alt” key, press “8722” on the numeric keypad, and then release the “Alt” key; or, in Microsoft Word, type “2212” and then press the “Alt” and “X” keys simultaneously. On a Macintosh computer, go to System Preferences -> Language & Text -> Input Sources and check “Unicode Hex Input”; select “Unicode Hex Input” in the menu bar; then hold down the “option” key, press “2212”, and then release the “option” key.

4-6 Abbreviations

Abbreviations should be stated explicitly the first time they are used in the main body of the text and again in each figure or table legend. The following terms do not require initial clarification and the abbreviations may be used throughout a manuscript:

- SI units of measurement
- Other common units (e.g. bp, kb, Da)
- Chemical symbols for the elements
- DNA (deoxyribonucleic acid)
- RNA (ribonucleic acid)
- rRNA (ribosomal RNA)
- mRNA (messenger RNA)
- tRNA (transfer RNA)
- AMP, ADP, ATP, dAMP, ddATP, and GTP, etc.
- NAD (nicotinamide adenine dinucleotide), NAD⁺, NADH, NADP, NADPH, NADP⁺
- UV (ultraviolet)
- DEAE (diethylaminoethyl)
- EDTA (ethylenediaminetetraacetic acid)
- EGTA [ethylene glycol-bis(β-aminoethyl ether)-*N,N,N',N'*-tetraacetic acid]
- HEPES (*N*-2-hydroxyethylpiperazine-*N'*-2-ethanesulfonic acid)
- AIDS (acquired immunodeficiency syndrome)
- Abbreviations for cell lines (e.g. HeLa)

When using **binomial nomenclature**, spell out the entire genus and species names the first time the organism is mentioned (*Danio rerio*). Future mentions may use the first letter of the genus followed by the entire species epithet (*D. rerio*). These should always be italicized.

The abbreviations “i.e.” and “e.g.” are acceptable. “E.g.” should be followed by an example or list of examples. It should be in roman (i.e., not italic) type and may be used either inside parentheses and followed by a comma or without parentheses and with commas both preceding and following. Think of it as a substitute for something like the phrase “for example.”

“E.g.” Example 1: “The finding has been supported by a number of other studies (e.g., Cavender *et al.* 2015, Collier *et al.* 2012, Decker *et al.* 1994, Purvis *et al.* 2010).”

“E.g.” Example 2: “Several other potential sources of energy for the project were proposed, e.g., solar, wind, and geothermal.”

“I.e.” should be followed by an explanation or clarification. It should be in roman type and follows the same grammatical conventions as “e.g.” Think of it as a substitute for something like the phrases “in other words,” or “that is to say.”

“I.e.” Example: “Some critics of the journal say that it is just as important to publish null results, i.e., those in which the experimental variable appears to have had no effect, as it is to publish statistically significant ones.”