

Urban Barcode Project **Guidelines for Summary Report and Posters**

OVERVIEW & IMPORTANT DATES

All teams participating in the *Urban Barcode Project (UBP)* are required to produce a summary report of their project no later than **Wednesday, May 20th**.

Teams will also share their results with the general public, scientists, and science education experts by presenting a poster during the *UBP* Poster Session on the evening of **Wednesday, May 27th** at the American Museum of Natural History. The top five teams (selected by judges after the Poster Session) will then be invited to give oral presentations and compete for the grand prize at the *UBP* Student Symposium & Award Ceremony on **Monday, June 8th**.

The summary report is due a week before the Poster Session to help you prepare your poster. Both should be formatted and presented in standard scientific conference styles, described below, along with suggestions, tips, and links to references software and scientific writing resources.

These deadlines and guidelines should be followed carefully. Non-compliance could disqualify your team from the *UBP* Poster Session and *UBP* Student Symposium & Award Ceremony.

I. SUMMARY REPORT

DEADLINE: Wednesday, May 20.

- Written in the style of scientific academic journals (see below)
- 1 inch margins
- Times New Roman, 12pt font
- Single line spacing
- Maximum length: 2 pages, excluding abstract, references, and figures/tables
- References and bibliography in the style of the Council of Science Editors: Name/Year system (see below)

Submitting Summary Reports

- The report **MUST** be integrated in one single Word document (.doc or .docx) and submitted via e-mail by 5pm, Wednesday, May 20, to: urbanbarcode@cshl.edu
- Multiple documents will **NOT** be accepted!
- Documents in a different format than Word (.txt or .pdf) will **NOT** be accepted!

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- Documents submitted after Wednesday, May 20, will NOT be accepted!

Core Sections of a Scientific Research Summary Report

Note: Whenever you state a fact that is based on the results of someone else's research, you must cite their work in the proper [format](#) (see below for more information). This applies to your summary report, poster, and presentation.

The summary report MUST contain the following sections: a) Title; b) Abstract c) Introduction; d) Materials and Methods; e) Results; f) Discussion; and g) References. While writing a research summary, it is important to keep in mind what each section is meant to tell the reader.

a) Title: *What question was studied? Who did the research?*

Format:

The title of your project in one sentence, bold, without a period at the end

Authors: Authors' names listed alphabetically by family name, following the style James Watson (not Watson, J.D., or Watson, James D.).

Name of mentor(s) and/or teacher(s).

School(s) and institution(s) of authors and mentor(s), using superscript numbers (^{1,2,3}) to denote affiliations.

Example:

All Those Bugs in my Backyard: DNA Barcodes of Insects Collected in Two Different Plots at the American Museum of Natural History's Terrace

Authors: Melissa Lee,¹ Alexandra Manaia,¹ Christine Marizzi¹

Mentor: Antonia Florio^{1,2}

¹ Cold Spring Harbor Laboratory's DNA Learning Center; ²The American Museum of Natural History.

The title of a scientific research summary should convey to the reader in very few words the major question being investigated and the major answer obtained from the research. The title is the section of the report where you have the most freedom to be attention-grabbing or creative. The only real rule is to be accurate and concise in your description of your research.

b) Abstract: *A summary of your project*

An abstract is a one-paragraph summary of a research project – maximum 150 words – that allows readers to quickly scan the major ideas and findings from your project. Abstracts precede papers in research journals and appear in programs of scholarly conferences and only include essential information:

- The most important background information (1-2 sentences)
- Research question and/or hypothesis (1 sentence)
- Objectives (1-2 sentences)
- Most essential Materials and Methods (1-2 sentences)
- Describe your results (2-3 sentences)
- Interpret your results (2-3 sentences)

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- Conclude with a final statement on the most important finding (1 sentence).

Although the abstract is usually the first section of a scientific paper, it is often written last, once you have clarified all your results, findings, and conclusions.

c) Introduction: *What question was asked?*

This section provides background information for readers so that they can understand the precise question you asked and why your study is of scientific interest. This is largely a review of the literature relevant to your project, summarizing the results and conclusions of published papers. The Introduction usually starts with general information then moves to more specific information.

The last 1-2 paragraphs of the Introduction should clearly state your project objective(s), research question(s), and the hypothesis you tested.

d) Materials and Methods: *How was the question answered?*

The reader should be able to use your Materials and Methods section to repeat your study. It should include descriptions of your sampling method, plus laboratory and bioinformatics protocols used.

- Sampling
 - What criteria did you use to choose your samples, or why did you collect those samples?
 - When did you collect your samples?
 - Where did you obtain your samples and why that area(s)? (**Please keep all commercial sources anonymous**)
 - What samples did you collect?
 - How did you collect your samples?
 - How many samples did you collect?
- Laboratory and bioinformatics protocols: A brief description of the protocols you used, specifying any adaptations/modifications you made.

e) Results: *What did you find?*

The Results section provides a summary of the data you obtained in your research. In this section you do *NOT* interpret the results; you merely present the results to the reader in an understandable way. The format you use to present your data will vary depending on your research. Only present important information that directly relates to your research question and hypothesis. Examples of data to include in your Report are maps showing sample locations, charts showing percent similarity among samples, and/or phylogenetic trees.. Only include a photo(s) of gel results if important for the results of your project. Figures and tables are not included in the 2-page limit.

f) Discussion: *How does this answer your question? What do these findings mean?*

In the Discussion you interpret your results and explain what they mean by comparing them to previous work. You can discuss:

- What your results mean.
- What the implications are.

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- Why your results are important.
 - Why your study may not have worked as you originally hypothesized (unusual or unexpected results, difficulties or hurdles, and any mistakes).
 - Suggestions for future studies to build on your findings.

Note: Openly discussing unexpected results, difficulties, or mistakes is central to the scientific process and will not count against you during judging.

g) References:

Document and credit all the sources of information you used for your project on a separate sheet at the end of your summary report. Whenever you state a fact that is based on the results of someone else's research, you must cite their work in the proper [format](#).

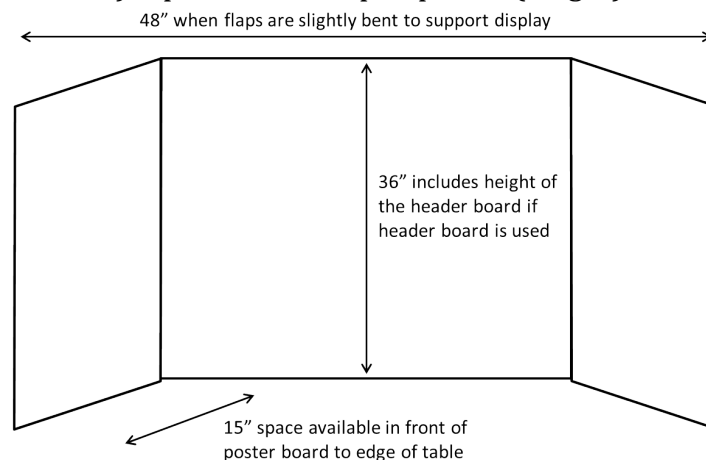
References MUST follow the standard scientific format as required for any professional publication. They should be in alphabetical order, following the style of the Council of Science Editors (see the [guidelines](#) prepared by Colorado State University: Name/Year system: <http://writing.colostate.edu/guides/guide.cfm?guideid=13>).

II. POSTER

DEADLINE: By *UBP* Poster Session on May 27th.

a) Display Dimensions (see figure below):

- 15 inches (38 centimeters) deep front to back when opened (depth)
- 48 inches (121 centimeters) side-to-side (width)
- 36 inches (91 centimeters) top of table to top of poster (height)



A poster of this size can be purchased from [Staples](http://www.staples.com/Geographics-26790-36-inch-x-48-inch-Two-Cool-Project-Board-White/product_GEO26790) (http://www.staples.com/Geographics-26790-36-inch-x-48-inch-Two-Cool-Project-Board-White/product_GEO26790).

Note: You can also print your poster using the same dimensions (36\" by 48\"); however we cannot cover printing costs.

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- b) Minimum font size 24pt.
 - c) Carefully plan the visual display of all elements you will include in your poster (*i.e.*, text, figures, tables, *etc.*). Try to keep all elements well organized, simple, visually clean, and harmonic.

Core Sections of a Scientific Poster

Use your summary report to help write your poster. The poster **MUST** contain the following sections: a) Title; b) Abstract; c) Introduction; d) Materials and Methods; e) Results; f) Discussion; g) Acknowledgments; h) References.

a) Title: The title of your poster **MUST** match the title of your summary report, including all author names and affiliations.

b) Abstract: *A succinct summary of your project.*

The abstract from your summary report can also be used as the abstract for your poster.

c) Introduction: *What question was asked?*

This section provides background for the reader so that they can understand the precise question you are asking, and why your study is of scientific interest. Use your summary report's Introduction to develop the Introduction on your poster. On your poster you can add more details and better justify your research question.

Questions to address in your Introduction:

- What scientific information is available to support your research project?
- What do readers need to know about biological principles to understand this research?
- What is your hypothesis? Explain the reasoning behind your hypothesis.
- Why is your research question important?

d) Materials and Methods: *How was the question answered?*

Use your summary report's Materials and Methods to develop this section and provide details of any modifications to the original protocol. In this section you need to:

- Describe all your experimental groups (*i.e.*, different types of samples you analyzed, such as control groups, or different products you evaluated).
- Describe briefly the techniques and protocols used.
- Specify any aspect of the Material and Methods that is particular to your project, such as any important aspect of sample collection, any modification of the DNA extraction protocol, or criteria used for selecting sequences included in alignments.

Keep all commercial sources anonymous; be careful with trademark and corporate names. Do not include any sensitive information, such as personal names or specific geographic locations of private properties.

e) Results: *What did you find?*

Show results for each one of the different experimental groups you mentioned in the Materials and Methods section. Use the Results from your summary report to develop this section, but

include any additional descriptive charts, tables, gels, graphs, and graphics. The Results section does *NOT* interpret the results, but merely presents them to the reader in an understandable way.

Some examples of figures/tables you may want to include in your poster are:

- Map of GPS coordinates where samples were collected
- Pie charts to showing types/numbers of samples analyzed
- Table of BLAST search results
- Phylogenetic trees (using different methods)
- Table showing sequence similarities among/within species or populations
- Figure linking the sample localities with their placement in the phylogenetic tree

f) Discussion: *How does this answer your question? What do these findings mean?*

You could discuss:

- Was your hypothesis supported or rejected? Why?
- Any serious errors in study design, thought or technique.
- The implications of your work for science/a local community/people affected by your research question.
- What further research is needed to build on your findings?

Be objective in the interpretation of your results. Avoid making judgments. Remember, openly discussing unexpected results, difficulties, or mistakes is central to the scientific process and will not count against you during judging.

Questions you might address:

- What did you find?
- What is the evidence that supports your findings? This evidence could be from both previous studies (the literature) or your own results.

g) Acknowledgements

In professional scientific publications, authors thank people/organizations that assisted them in doing the research. These can include:

- collaborators (*e.g.* professionals from NYC parks, Genspace, *Harlem DNA Lab*, *etc.*)
- funders (*i.e.*, Cold Spring Harbor Laboratory, your school)
- reviewers, both known and anonymous.

h) References:

Document and credit all the sources of information you used for your project at the bottom of your poster. Whenever you state a fact that is based on the results of someone else's research, you must cite their work in the proper [format](#).

References MUST follow the standard scientific format as required for any professional publication. They should be in alphabetical order, following the style of the Council of Science Editors (see the [guidelines](#) prepared by Colorado State University: Name/Year system: <http://writing.colostate.edu/guides/guide.cfm?guideid=13>).

REFERENCE AND BIBLIOGRAPHIC SOFTWARE

[Zotero | Home](#)

Zotero is a powerful, easy-to-use research tool that helps you gather, organize, and analyze sources and then share the results of your research.

www.zotero.org/

[NoodleBib - The MLA Bibliography Composer](#)

Free service that simplifies the process of creating and editing MLA-style bibliographies.

www.noodletools.com/noodlebib/go.php

[BibMe: Fast & Easy Bibliography Maker - MLA, APA, Chicago](#)

Faster than EasyBib™! **BibMe** AutoFills citations for you. Download your MLA, APA, Chicago, or Turabian bibliography in RTF for free.

www.bibme.org/

[EndNote Web](#)

EndNote Web is a web-based service designed to help students and researchers through the process of writing a research paper.

www.endnoteweb.com/enwebinfo.asp

SCIENTIFIC WRITING: ADDITIONAL RESOURCES

[Scientific Writing Booklet](#)

www.biochem.arizona.edu/marc/Sci-Writing.pdf

[Writing a Scientific Research Article](#)

www.columbia.edu/cu/biology/ug/research/paper.html

[Scientific Writing](#)

uwp.duke.edu/wstudio/resources/documents/science_sci.pdf