

## Biocore Worm Poster Review Rubric

Main study question: Is *C. elegans* a good model system for investigating the function of certain human disease genes?

	<b>0 = inadequate (C, D or F)</b>	<b>1 =adequate (BC)</b>	<b>2 = good (B)</b>	<b>3 = very good (AB)</b>	<b>4 = excellent (A)</b>
<b>Title</b> (See p. 41 in *WM)	Answer to study question cannot be determined by title	Has two or more problems comparable to the following: Title is not concise, answer to study question is difficult to determine by title, most key information is missing	Title could be more concise but still conveys answer to study question OR Title is concise & conveys answer to study question but is missing both model system & gene studied	Title is concise & conveys answer to study question, but is missing model system or gene studied	Title is concise, conveys answer to study question, and includes model system & gene studied
<b>Abstract</b> (See p. 41 in *WM)	Abstract is missing or, if present, provides no relevant information.	Many key components are missing; those stated are unclear and/or are not stated concisely.	Covers most key components but could be done more clearly and/or concisely.	Concisely & clearly covers all but one key component OR clearly covers all key components but could be a little more concise and/or clear.	Concisely & clearly covers all key components in 200 words or less: study question, biological rationale, prediction, approach, whether prediction supported by data.
<b>Introduction</b> (See p. 41 in WM)	Introduction provides little to no relevant information. (This often results in a prediction that "comes out of nowhere.")	Many key components are very weak or missing; those stated are unclear and/or are not stated concisely. Weak/missing components make it difficult to follow the rest of the poster. <i>e.g.</i> , background information is not focused on study question and minimal biological rationale is presented such that prediction isn't entirely logical	Covers most key components but could be done much more logically, clearly, and/or concisely. <i>e.g.</i> , biological rationale not fully developed but still supports prediction. Remaining components are done reasonably well, though there is still room for improvement. Includes information that is extraneous and detracting from the main ideas.	Concisely & clearly covers all but one key component (w/ exception of rationale;) OR clearly covers all key components but could be a little more concise and/or clear. <i>e.g.</i> , has done a reasonably nice job with the Intro but fails to state the approach OR has done a nice job with Intro but has also included some irrelevant background information	Clearly, concisely, & logically presents all key components: relevant & correctly cited background information (to describe gene studied, its role in human disease and in <i>C. elegans</i> ), study question, biological rationale (why we study <i>C. elegans</i> genes to understand human disease), study prediction, approaches used to answer study question.
<b>Methods &amp; Materials</b> (See p. 42 in WM)	So little information is presented that reader could not possibly evaluate claims	Methods presented such that a reader would have difficulty evaluating claims unless they learned several more key details OR methods are conveyed with too much text & almost no figures/charts.	Methods presented such that a reader could evaluate <i>most</i> claims made only after learning a few more key details OR methods are conveyed with a lot of text & would be better explained with more figures/charts.	Concisely & clearly describes procedures used to generate data presented used so that reader could evaluate <i>most</i> claims made. Minor problems with organization OR some irrelevant/ superfluous information.	Concisely & clearly describes procedures used to generate data presented, using text and/or diagram(s) and/or charts. Gives readers enough information to evaluate claims but not necessarily to repeat experiment.
	<b>0 = inadequate (C, D or F)</b>	<b>1 =adequate (BC)</b>	<b>2 = good (B)</b>	<b>3 = very good (AB)</b>	<b>4 = excellent (A)</b>
<b>Results</b> (See p. 42 in WM)	Major problems that leave reader uninformed; narrative text is lacking entirely, tables & figures	Has 3-5 problems comparable to the following: excessive narrative text with minimal, uninformative tables/figures; some relevant data are present but are mixed in with much	Uses somewhat concise text to refer to figures/graphs that highlight the various forms of evidence, but has 2-3 problems comparable to the following: most relevant data are present	Uses very concise text to refer to figures/graphs that highlight the various forms of evidence, but has made a few minor omissions or has other relatively small problems. <i>e.g.</i> ,	Uses very concise text to refer to figures/graphs that highlight the following evidence: deletion mutant phenotype & genotype, bioinformatics analysis of genetic deletion & its effects on mRNA and

	contain unclear and/or irrelevant information. <i>e.g.</i> , raw data are in a table w/ poor legend and no title.	unnecessary information; key data are not immediately apparent in figures and are not explicitly noted in text, tables & figures lack legends and/or titles, conclusions about prediction are emphasized.	but are mixed in with some unnecessary information, key data are shown in figures but are not explicitly noted, tables & figures have very brief legends that leave out key details, conclusions about prediction are briefly made.	relevant data are summarized well and without biological interpretation, but tables & figures have very brief legends that leave out some key details.	protein, RNAi phenotypes.  If you had problems collecting valid data, state what the problem were that make your data invalid.
<b>Discussion</b> (See p. 42 in WM)	Most key components are missing or very weakly done. <i>e.g.</i> , illogical conclusions made based on data, no ties to biological rationale are made, no literature cited, little to no evaluation of experimental design/data.	Many key components are very weak or missing; those stated are unclear and/or are not concise. <i>e.g.</i> , fails to conclude anything about the prediction and so conclusions about study question are vague and incompletely tied to rationale, literature is minimally cited, presents unranked laundry list of problems instead of logical evaluation of data, suggests flashy new experiments that would not clearly shed light on gene function.	Presents an analysis that uses multiple forms of evidence to answer the study question, but could be done much more logically, clearly, and/or concisely. <i>e.g.</i> , clearly states that prediction is supported and develops a good argument that refers to biological rationale, but fails to logically and objectively evaluate the data reliability or propose future studies of the gene. Remaining components are done reasonably well, though there is still room for improvement.	Presents an analysis that uses multiple forms of evidence to logically answer the study question but could be a little more concise and/or clear. <b>OR</b> Clearly & concisely presents an analysis that uses multiple forms of evidence to logically answer the study question but is missing 1-2 key components. <i>e.g.</i> , has done a reasonably nice job with the Discussion but fails to clearly tie biological rationale from the Intro into the conclusions made <b>OR</b> has done a nice job with the Discussion but has also included an extensive laundry list of experimental problems without discussing their impact on the conclusions.	Clearly & concisely presents an analysis that uses multiple forms of evidence to logically answer the study question ( <b>Is <i>C. elegans</i> a good model system for investigating the function of your human disease gene?</b> ). Integrates results to show how they are related. Formulates argument for conclusions referring back to rationale and original prediction & by comparing with relevant findings in literature. Evaluates reliability of data. Briefly proposes future studies to further characterize function of gene.  *You must present your own data. If you believe some data were invalid, discuss how this impacts your ability to make conclusions regarding your prediction. You may present data from other students, citing appropriately, if it helps you make conclusions about your prediction.
<b>Visuals</b>	The visuals used satisfied very few of the key criteria.	The visuals used satisfied only some of the key criteria.	The visuals used satisfied most of the key criteria.	The visuals used satisfied all but one or two of the key criteria.	The visual look of the poster very effectively conveyed the research project because: 1. content was relevant; 2. overall appearance was pleasing to the eye but did not distract from the research; 3. font size, graphs, & figures were large enough such that 8.5 x 11 inch printout could be easily read; 4. font, graph, & figure *colors contrasted well against background & so were easy to see; 5. poster filled with just enough information to be informative without looking overcrowded; 6. graphs and figures were clearly labeled, had informative titles & legends, and effectively displayed relevant data; 7. organization & formatting emphasized pertinent points.  * colors optional
<b>Literature</b>	Background information is	Very few references are cited in text of poster; final citation list	References within body of poster & references in final citation list	References within body of poster are cited appropriately;	References within body of poster are cited appropriately; references in

<b>Cited</b> (See p. 27 in WM)	presented but is consistently not cited; final citation list is missing	is largely incomplete and/or is not formatted appropriately.	are done appropriately for the most part, but there are consistent exceptions. <i>e.g.</i> , citations are used sparingly throughout the poster when background information is presented OR there are consistent formatting errors in text and final citation list.	references in final citation list are formatted appropriately and listed alphabetically by author using WM guidelines, but there are 1-2 exceptions. <i>e.g.</i> , citations are done well except that one or two references listed in text do not appear in the final list OR there are a few minor formatting errors in the final citation list.	final citation list are formatted appropriately and listed alphabetically by author using WM guidelines.
<b>Overall grammar, organization, wording</b>	All poorly organized, interrupted flow to ideas leading to lack of clarity, can not follow thought progression, many grammatical errors	Problematic organization of some section resulting in loss of clarity; awkward wording at times; some grammatical errors	Organization somewhat problematic but can still follow thought progression <i>e.g.</i> explanation of methods in the results section; wording awkward at times, some grammatical errors	Organization was good with few to no problems, wording awkward in a few places, few grammatical errors	Excellent organization and flow, appropriate word choice, few to no grammatical errors

\*WM = Biocore Writing Manual

## Biocore 304 Poster Rubric Conversion to Letter Grade

Letter Grade	Minimum Criteria
A	Earned a “4” in Introduction, Methods & Materials, Results, Discussion, & Visuals, earned a “3” or better in Title, Abstract, Literature Cited, & Overall grammar, organization, wording.
AB	Did not meet minimum criteria for an “A”, but earned a “3” in Introduction, Methods & Materials, Results, Discussion, & Visuals, and a earned a “2” or better in Title, Abstract, Literature Cited, & Overall grammar, organization, wording.
B	Did not meet minimum criteria for an “AB”, but earned a “2” in Introduction, Methods & Materials, Results, Discussion, & Visuals, and a earned a “1” or better in Title, Abstract, Literature Cited, & Overall grammar, organization, wording.
BC	Did not meet minimum criteria for a “B”, but earned a “1” or better in all sections.

<b>C</b>	Did not meet minimum criteria for a “BC”, but earned a “1” or better in Introduction, Methods & Materials, Results, Discussion, & Visuals, and received no more than one zero in Title, Abstract, Literature Cited, & Overall grammar, organization, wording.
<b>D</b>	Did not meet minimum criteria for a “C”, but earned a “1” or better in at least 3 of these 5 sections: Introduction, Methods & Materials, Results, Discussion, & Visuals.
<b>F</b>	Did not meet minimum criteria for a “D.”