

Guidelines from the GGE Awards Committee for the Jastro Shields Research Award

The Graduate Group in Ecology Awards Committee has followed the philosophy that awarding of scholarship moneys should be competitive, while still attempting to support the research of as many students as possible. As you can see from the funding breakdown below, it is possible to receive full funding, or a large proportion of the amount you request in your proposal budget. The competition is an opportunity for graduate students to learn to write competitive proposals.

Number of applicants	Funding level
5	full, up to \$3,000
12	up to \$2,000
15	\$1,000
4	up to \$500
4	0
40 applicants	\$48,000

The following suggestions were compiled by members of the GGE Awards committee in order to provide feedback, and to assist Ecology graduate students in preparing future proposals. Good proposals are based on clear thinking and good writing, but, as you might expect, these qualities are not easily defined (if they could be, we would probably all be out of a job). There will be a large range in the types of projects that students in Ecology propose, and for any particular proposal, most of the awards committee members will not be intimately familiar with that field of study. This means that you must go out of your way to be as clear as possible.

Make sure you define your terms, avoid excessive use of jargon, and make your arguments in a logical and stepwise manner. What are the givens, what is observation and what is interpretation, etc? Unclear or simply "implied" connections between successive thoughts will be distracting to the reader, even if the connections seem obvious to you.

Here are some specific suggestions. **It is in your best interest to address all of these in the presentation of your project.**

1. Provide some contextual and hypothetical framework for your project. This approach will help your reader see the larger picture, importance of your project, and how it may provide answers to the specific questions that you are posing. Your main objective should not be to just convince the review committee of the inherently fascinating qualities of your site/organism.

Be sure to provide a concise section (one para to a max of 1page in a 5 page proposal) that clearly links your project to its larger context. It is helpful when preparing this to ask yourself: "how will the data I am proposing to collect actually contribute to an understanding of this larger question." In some cases, such as in descriptive studies, it will be necessary for you to read extensively in theoretical and/or applied areas that relate to your study site or study organism in order to provide this.

2. Specific hypothesis (es). It is rare that any one project will address every single aspect of a larger question. Most likely, you are posing a specific question that will help to a

further understanding of some small portion of the larger question. You should be able to state this as a specific hypothesis or set of hypotheses. These hypotheses should not contain the jargon and the conceptual framework of the larger field. They should be simple sentences that indicate what the data could look like, and how the data will answer the question(s) posed.

3. Clear methodology. In general, this is most easily provided by stating your hypotheses in a testable fashion. This will allow you to follow with a description of your experimental design or an explicit description of how you will collect data. Be complete and clear. You should also include a description of what the data will look like when you collect them (e.g., 100 measurements per replicate per treatment of height and weight of an organism subjected to several test conditions; allele and genotype frequencies of 20 to 30 individuals sampled in each of 6 geographical locations; etc.). Finally, you should tell us how the data will be used (e.g. tested statistically against hypothesized causes of the effect; tested against models that predict certain results; etc.). You are encouraged to state the statistical tests you intend to use with each set of data, and a brief justification for why you chose those tests.

5. Feasibility. You must convince the readers that your project is feasible. This is where preliminary data or preliminary experiments fit naturally. The more easily reviewers can picture how you will proceed, and what information you will be actually collecting, the more inclined they are to believe it will happen.

Additional comments.

Visual clarity and flow are very important. Stick to the pre-approved formatting requirements. The reviewers want to find the critical and informative pieces easily and quickly. The easier you make this for them, the better your ranking will be.

Proposals are evaluated by this committee relative to the length of your tenure in graduate school. If you are early in the program, you may be less able to state your project in terms of testable hypotheses, for example, in which case clearly stated objectives are considered acceptable. However, remember to include a specific description of how you will approach these objectives in order to formulate hypotheses in the near future (e.g. preliminary field surveys, experiments, etc.). By your 4th year in the program, you are expected to have preliminary data and you should present it in your proposal. If you have performed prior experiments or studies, and your current proposal is separate, you should include a paragraph explaining what these prior studies consisted of, what they accomplished, and how the current proposal relates to them. Otherwise, there is no way the committee will know why you are unable to provide preliminary data at this stage. Prior recipients of Jastro Shields awards, in particular, are encouraged (though not required) to attach an appendix describing how you used the money awarded you in previous years and the results of those efforts.

In reviewing these suggestions, you may find yourself thinking that they do not apply to your project. The wide range of potential projects in Ecology, from pure modeling, to manipulative experiments, to comparisons of “natural” experimental conditions, to completely descriptive ensures that each does not lend itself equally to all of the suggestions above. However, recall that in this, as in many of the awards you will apply for in the future,

committees must read a large number of applications that span the entire gamut of possibilities. Presenting your project proposal in a universally clear style will work to your advantage.

Your major professor will be the most important person who will write your letters of recommendation during your graduate career. It is essential to involve your major professor in your project planning and get feedback along the way. This person's letter clearly reflects how well they know the project you are proposing and how confident they are that you can accomplish it. If you find that your major professor is unavailable or unwilling to participate in your project planning, you should seriously consider the potential ramifications of this gap to your continuing graduate career. Cultivating additional faculty mentors who are involved will obviously help in cases where multiple letters may be submitted.

We suggest that you review the proposal submitted this year in light of these suggestions. You should be able to pinpoint the components that were missing or how the presentation of your information could have addressed the points more clearly. It may help to show your proposal to friends who are not experts in the same techniques or approaches that you propose to see if they can point out missing pieces. If you find that you understand what the weaknesses may be, but are unable to address some of them, it may mean that you need to do more background reading in your area, to review the literature to see how others have tested similar ideas, or to obtain assistance in the experimental design of your study.

Good luck!