Purpose

The Keever Biology Research Training Fund was established through a donation from Dr. Catherine Keever, deceased Emeritus Faculty Member of the Department of Biology. This fund is to be used to support the training of Biology Majors in methods and values of scientific research.

Awards

Awards will be made to undergraduate Biology Majors who have completed at least 60 credits of college work. First consideration will be given to applicants who have completed Zoology and/or Botany and who have maintained an overall GPA of at least 3.0. Eligible projects must be planned or in progress; completed projects will not be considered.

Between 1 and 4 awards will be made annually ranging from $200 to $600. Eligible projects may apply to any field of biology with preference given to botany. The project for which a student is seeking funding may be part of a larger faculty research venture. Joint projects or projects with multiple faculty sponsors are acceptable.

Funds may be used for the acquisition of supplies or equipment needed for the research project. Equipment items will become the property of the Department of Biology at Millersville University. Out-of-town travel and accommodations essential for completion of the research may be funded. Ordinary living expenses and travel to and from campus are not eligible. Funds will be available for use until one semester after the student recipient has graduated.

Awards will be placed in a student grant account to which charges can be made directly using conventional departmental practices. Faculty supervisors should consult with the Biology Department Budget Coordinator or the Departmental Secretary responsible for budget matters if they have questions about correct procedures. When travel is planned, the necessary paperwork, including travel request and travel reimbursement forms, must be completed in a timely manner.

Receipts need to accompany all requests for reimbursement. Upon completion of the project, awardees will be required to submit a scientific abstract describing their results along with a final accounting of how the funds were used to their faculty sponsor. A copy of this report should be shared with The Office of Grants, Sponsored Projects and Research, Director, Dr. Rene Munoz, by email with a pdf attachment to rene.munoz@millersville.edu.

Application and Award Procedures

Proposals will be accepted starting February 15 each year. The deadline for proposal submission is the Wednesday before Spring Break. Links for submission of the application (and the supporting letter from the faculty sponsor) can be found at:

https://MillersvilleIRB.formstack.com/forms/keever_application
If you have questions about the award, please contact Dr. Ryan Wagner, Chairperson of the Keever Award Committee, ryan.wagner@millersville.edu If you have problems with the application website please contact Dr. Munoz, Director Sponsored Programs by email at rene.munoz@millersville.edu, or by phone at 717-871-4457.

Application Requirements

Applications should include all of the following components. Proposals lacking any of these may be disqualified from consideration. Students should have their faculty mentor review the proposal carefully prior to submission. Proposals should be single spaced with 1-inch margins and text no smaller than 11 pt. proposal narratives must be limited to no more than 5 pages. The faculty letter of support, budget template and budget justification do not count against this limit.

On the proposal form, the following information is required:

- Student Name; Major (Option); Credits earned overall/in biology
- Name of Faculty Supervisor
- Project Title: One phrase that succinctly states the experimental goal(s) of the project.
- Project Abstract: Brief statement (abstract, 200 words or less) of project goals and its scientific value.

The proposal Narrative should include the following sections:

- Introduction: A clear narrative that explains the problem to be investigated, the purpose of the proposed project, scientific objectives, and if possible the exact hypotheses to be tested. This section should also include background information with a thorough review demonstrating the student’s familiarity with primary literature relevant to the project. Students should consult with their faculty sponsor to ensure that all information is appropriately and correctly cited using established scientific format.

- Methods: This section should include a description of the research planned and the estimated time needed for each phase of the project. Details about experimental design, a clear description of the study site (if a field project), and (when appropriate) explanations about statistical analyses planned are important. The student should describe details about control vs. experimental conditions, and replication planned for their experiments. Explanations of how the experiments will contribute toward the stated scientific objectives are important. Include a description of when each phase of the project is expected to be completed.

- Expected Outcome: A brief description of what the student hopes to gain through this experience. This should include:
  - how the project results will contribute to scientific knowledge;
  - ways in which the training will benefit the student in the future;
  - plans to present the results at scientific meetings;
  - plans to publish results of the research

- Literature Cited: List all references cited throughout the application alphabetically and formatted correctly for a scientific journal. Make sure the format is consistent.
The Proposal

Budget:

This section should list necessary supplies, equipment and travel along with accurate costs for each item. Students should determine the most economical source for supplies (Roddy Storeroom, MU agreements with Fisher or VWR). Total mileage needed to complete the project should be calculated as accurately as possible at the university accepted rate per mile. Budgets lacking details or valid prices may result in reduced award amounts.

The budget template contain three columns for costs (see example below). The first is for the total costs of the items required for your project. The second is for the amount coming from sources outside the Keever i.e. from other student grants or your own funds. The third column is for the amount you are requesting from the Keever.

<table>
<thead>
<tr>
<th>Supplies and Materials</th>
<th>Description</th>
<th>Total Cost</th>
<th>Amount from Other Sources</th>
<th>Amount req. from Keever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagent 1</td>
<td>For x</td>
<td>150.00</td>
<td>75.00</td>
<td>75.00</td>
</tr>
<tr>
<td>Reagent 2</td>
<td>For y</td>
<td>99.99</td>
<td>99.99</td>
<td>0.00</td>
</tr>
<tr>
<td>Pipettes</td>
<td>For z</td>
<td>226.00</td>
<td>0.00</td>
<td>226.00</td>
</tr>
<tr>
<td>4.</td>
<td>$</td>
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</tr>
<tr>
<td>5.</td>
<td>$</td>
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<td>$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research Travel</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Mileage to/from research site</td>
<td>275.00</td>
<td>100.00</td>
<td>175.00</td>
</tr>
</tbody>
</table>

The budget template can be downloaded, completed, saved as a pdf, and uploaded to the application.

Letter of Support from the Biology Faculty Member who is sponsoring the research project must be included. This should address the feasibility of the project and describe how involvement in the project will train the student in the methods and values of scientific research. The faculty sponsor will have the opportunity to upload their letter after the student completes and submits their portion of the application.

Budget Justification

The budget justification is uploaded separately from the narrative and budget. Like the narrative, it should be no smaller than 11 pt and have one-inch margins. It can, however, be a bullet-pointed list justifying your proposed expenses. E.g.

- Reagent 1 is a necessary component of x step in the proposed project. 150 mls of Reagent 1 will be purchased from Fisher Scientific at a cost of $1.00 ml. $1 x 150 mls = $150.00.