Renewable Energy/Bio-products Applied Research Fellowship for Undergraduates

The purpose of this fellowship is to encourage student interest in renewable energy and bio-products through applied research with a focus on technology transfer. The strength of our economy resides with small industry; therefore, in a small way, this fellowship should be viewed as a gateway for students to commercialize their ideas.

Award Information: The award will be $4,000 to be allocated as follows: $3,000 for student salary, $500 for supplies, and $500 for faculty mentor.

Eligibility:

a. Undergraduate students in their sophomore or junior year are eligible to apply if they are accepted into their academic program or in good programmatic standing. The student will attend MSU as a fulltime undergraduate for the duration of the fellowship.

b. The intent of the fellowship is to build on existing classroom and/or personal experiences and interests. The student must fulfill the study project independent of any existing program or competition requirement and not in conjunction with research required for a program or to fulfill a group-oriented project.

c. It should be understood that support will cease if the student is no longer in good programmatic standing.

Suggested Renewable Energy Projects:

The breadth of topics is designed to assure that students of all departments in college can participate. Suggested but not limited to:

a. Combustible solid biomass
b. Biogas
c. Solar energy (solar thermal, photovoltaic)
d. Thermoelectric transformations
e. Synthesis of bio-fuels
f. Mathematical applications to renewable energy problems
g. Green construction
h. Products related to climate change
i. Hydro or wind power
j. Cellulosic fuels and other value-added products
k. Conservation innovation
Deadline:
Application deadline is the Friday before Thanksgiving. Applicants must secure signatures of their faculty mentor and the department chair before submitting. The development of the idea and the writing of the proposal must be the work of the student and not the faculty mentor. Signed copies of proposals will be delivered to the CSET Student Advising Center on or before the official due date.

Review Process:
Renewable energy and bio-products are broad areas of research and reviewers may find some proposals outside their areas of expertise. Therefore, it will be beneficial for the applicant to use language and terminology that is clear and understandable for all readers. It is important that the research is focused on technology transfer as a possible outcome.

Required Application Format:
The proposal itself cannot exceed 4 pages using 12 font, 1” margins, double-spaced. In addition, it must include a cover page, letter(s) of support, and the applicant’s resume.

The Proposal Contents

a. Introduction: A concise statement of:
   • Purpose and major objectives of the proposed research project
   • Literature citations that will provide a scientific foundation for the proposed project
   • how this project will contribute to the advancement of technology in renewable energy

b. Narrative: A detailed description of how the applicant will execute the project. It must include the following:
   • A methods/design section
   • A description of the expected outcome.

c. Budget
   • Please plan your budget carefully. Allowable costs fall into the general categories of supplies, equipment, copying/printing, and postage.
The applicant must provide an itemized list of expenses to complete the project. Any unspent funds will go back to the foundation for future projects; or if the student does not plan to use the funds, he/she should notify the College Development Director as soon as possible.

Applicant must also identify area(s) of support provided by the department, the College of Science, Engineering and Technology, or other external sources, e.g., IRETI, business.

**Budget Timetable:**
The following table is designed to outline the general intent of how the budget can be designed relative to time. It is expected that the student’s home department and the College will support the project with use of instrumentation and supplies. The following table is an example of how the budget can be designed relative to time.

<table>
<thead>
<tr>
<th>Project Activity</th>
<th>Timetable</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Student Award</td>
<td>Fall Semester</td>
<td>$250 Stipend to Student MSU Account</td>
</tr>
<tr>
<td>Implementing Project Design</td>
<td>Spring Semester</td>
<td>$500 for Project</td>
</tr>
<tr>
<td>Order Supplies</td>
<td></td>
<td>$500 for Project</td>
</tr>
<tr>
<td>Identify In-kind Equipment and Supplies</td>
<td>As needed throughout project</td>
<td>Variable</td>
</tr>
<tr>
<td>Execute applied research</td>
<td>Summer</td>
<td>$2,500 Stipend to Student MSU Account</td>
</tr>
<tr>
<td>Finalize Project and Begin Writing Presentation</td>
<td>Fall Semester</td>
<td></td>
</tr>
<tr>
<td>Paper Presentation</td>
<td>Spring URC and Other Meetings if Possible</td>
<td>$250 Stipend at Time of Presentation To Student MSU Account</td>
</tr>
<tr>
<td>Faculty Mentor Support</td>
<td>Self-select</td>
<td>$500 Stipend to Faculty</td>
</tr>
</tbody>
</table>

**Dissemination of Project Results:**
The student must present his/her project to the MSU Undergraduate Research Conference (URC). A written copy of the presentation (poster session or paper session) must be submitted jointly to the Vice President of Strategic Partnerships and to the CSET College Dean at time of the Undergraduate Research Conference.

**Note:** Any intellectual property derived from the fellowship will be governed by the MNSCU intellectual property guidelines.