



UNIVERSITY CAMPUS PROGRAM FUND SPENDING AGREEMENT

UNIVERSITY CAMPUS PROGRAMS USE ONLY	
Fund:	Division:
Approved By:	Function:
Date:	Dept ID:
	Select Code:

Please fill out this form if you would like to request a new University Campus Program fund.

Purpose of Fund:

Please use the following space to describe in detail the purpose and/or background of this new fund. Also include any specific restrictions placed on the use of the funds. Please ensure that the purpose (as described below) is consistent with the boxes checked in the Types of Expenses section.

The purpose of the Baker and Koob Endowments is to support hands-on, project-based learning opportunities for individual students and groups at California Polytechnic State University, San Luis Obispo. Fundable projects include, but are not limited to, student support, student and faculty travel, student and faculty expenses associated with participation in student research, group projects, conferences, competitions, and equipment and materials related to student research.

I would like the fund to be titled: Solar-powered cook stove

DeptID to be associated with new fund: 115500

Fund director will be: Peter Schwartz Phone Number: pschwart@calpoly
Print name/Title

Source of Funds:

Gifts/Donations (please attach any documentation provided by the donor, and any other documentation that may provide guidance as to the types of allowable spend and purpose of donation)

- Written documentation from the donor? (Attach)
- Written solicitation for these funds from you on behalf of the University? (Attach)
- Letter or gift agreement that accompanied the funds? (Attach)

Baker/Koob endowments Fund number: _____

Cal Poly Foundation funding source Fund number: _____

Cal Poly Corporation funding source Org Key/ Object Code _____

Does the donor require anything in return for their donation/sponsorship, i.e. report, finished product, book, naming rights, etc.? Yes No

If yes, what is required? Final Report

Types of Expenses (check all that apply):

- Hospitality Faculty/Staff Salaries Other Financial Aid*** (explain below)
- Travel Student Salaries Awards**
- Scholarships*** Supplies/Equipment Other (explain below)

* can be spent on any expenditure that serves a bona fide university business purpose

** must be paid through State payroll office

*** must be coordinated and paid through Financial Aid office

Additional Explanation:

Proposals can include funding for travel, operating expenses, and contractual services (see specific budget line items in Baker and Koob Endowments Proposal template at <http://provost.calpoly.edu/endowments>). Requested funds may not be utilized for student or faculty salaries or for student tuition/fees.

Additional Details:

Will this fund be used to pay for the costs of coordinating and hosting a conference? Yes No

If yes: Held on campus* Held off campus Fee charged for event

Who will attend:

A request to close the fund may be made to the fund director of record when the fund has not had any fiscal activity over a period of six months. Closure may consist of transferring excess funds to another related departmental fund within restrictions specified on the subject account.

With the fund director's concurrence (this is required to establish the fund), in the event of a deficit in this fund, funds will be transferred from fund:

Fund Number: 77900 Fund Name: Physics Discretionary Account

Required: I acknowledge no interest will be allocated to funds on deposit in this fund

HS
Initial here

All reports are to be retrieved by Fund Director or designee by utilizing PeopleSoft/Dashboards.

1. Does director have access? Yes No If no; retrieve access by filling out the form located at

<http://afd.calpoly.edu/budget/cmsfinance.asp>

2. Does anyone else need access to fund? Yes No If yes; who?: Shirley Huston

Note - the account director should designate an individual to have Dashboard access to assist with budgets, reporting, etc.

* Please note that conferences held on campus must be coordinated via Conference and Events Planning (756-7600)

Review and Approval:

REVIEWED AND APPROVED BY: (Dean or Vice Presidents are also Authorized Signers on funds established in their college, program or division)

By signing this agreement, I hereby authorize and assign the ownership of the University Campus Program Fund and/or activity described herein to the University, and agree to adhere to all terms and conditions of the agreement.

Peter V. Schwartz → *Peter V. Schwartz* 3-18-2016
Fund Director - Printed Name and Title Fund Director Signature Date

Robert Echols *Robert Echols* 4/7/16
College Dean / Dept. Chair Printed Name College Dean / Dept. Chair Signature Date

Please complete all sections of this request and submit it to State Accounts Payable (Admin Bldg, room 129). You must also include a properly completed Signature Authorization Form with your submission. Once approvals have been obtained, the University Campus Program Fund will be established and you will receive a fund number. If you have any questions regarding your fund, please contact University Campus Programs at ucp@calpoly.edu.

For Office Use Only:

APPROVAL / AUTHORIZATION ROUTING	
Fiscal Services Management	Date
Foundation Management	Date
University Controller / Director of Fiscal Services	Date
Vice-President of Administration & Finance	Date

**University Campus Programs
Signature Authorization Form**



FUND DIRECTOR: Peter Schwartz
 FUND DIRECTOR TITLE: Associate Professor
 FUND: _____ EFFECTIVE DATE(S): _____
 FUND TITLE: Solar Powered Cook stove

AUTHORIZED SIGNATURES:

1. _____
 Signature Print Name & Title

DELEGATION TYPE: Check all that apply:

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Direct Buy Form
PO Requisitions other
Than Property & Equipment
Limit (if any):\$ _____ | <input type="checkbox"/> Time Cards
Employment Forms
Limit (if any):\$ _____ | <input type="checkbox"/> Property and
Equipment Funds
Limit (if any):\$ _____ | <input type="checkbox"/> Petty Cash (\$100 max.) |
|---|--|---|--|

2. _____
 Signature Print Name & Title

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Direct Buy Form
PO Requisitions other
Than Property & Equipment
Limit (if any):\$ _____ | <input type="checkbox"/> Time Cards
Employment Forms
Limit (if any):\$ _____ | <input type="checkbox"/> Property and
Equipment Funds
Limit (if any):\$ _____ | <input type="checkbox"/> Petty Cash (\$100 max.) |
|---|--|---|--|

3. _____
 Signature Print Name & Title

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Direct Buy Form
PO Requisitions other
Than Property & Equipment
Limit (if any):\$ _____ | <input type="checkbox"/> Time Cards
Employment Forms
Limit (if any):\$ _____ | <input type="checkbox"/> Property and
Equipment Funds
Limit (if any):\$ _____ | <input type="checkbox"/> Petty Cash (\$100 max.) |
|---|--|---|--|

4. _____
 Signature Print Name & Title

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Direct Buy Form
PO Requisitions other
Than Property & Equipment
Limit (if any):\$ _____ | <input type="checkbox"/> Time Cards
Employment Forms
Limit (if any):\$ _____ | <input type="checkbox"/> Property and
Equipment Funds
Limit (if any):\$ _____ | <input type="checkbox"/> Petty Cash (\$100 max.) |
|---|--|---|--|

ALL ACCOUNTS: Any expenditure involving reimbursement directly to the Fund Director requires Supervisor's approval.

DISCRETIONARY ACCOUNTS ONLY: Discretionary Fund Expenditures (including transfer) in excess of \$3,000.00 (Fund 7XXXX series) requires Supervisor's approval.

PLEASE NOTE: If you do not wish to delegate signature authority, you still need to sign and date this form.

Peter Schwartz
FUND DIRECTOR SIGNATURE

March 18, 2016
DATE

Route completed forms to University Campus Programs ucp@calpoly.edu



Warren J. Baker Endowment
for Excellence in Project-Based Learning
 Robert D. Koob Endowment *for Student Success*

Proposal Cover Page

Title of Project:
Solar-Powered Cook Stove

Proposal Author: Madison Fleming and Mia Sheperd Cal Poly Email: maflemin@calpoly.edu

Student ID: 010014364 Signature (Optional): _____

Signature provides permission to check financial aid eligibility.

Previous Baker/Koob Endowment funding? (circle one): Yes No

Team Member(s)	Signature	Cal Poly Email	Department
<u>Madison Fleming</u>	<u>MF</u>	<u>maflemin@calpoly.edu</u>	<u>Industrial Technology</u>
<u>Mia Sheperd</u>	<u>MS</u>	<u>msheperd@calpoly.edu</u>	<u>General Engineering</u>

Faculty Advisor: Peter Schwartz

Department: Physics

Faculty Advisor email: pschwart@calpoly.edu

Telephone: +1 805 756 1220

Anticipated Start Date: 06/2016

Anticipated End Date: 07/2016

Total Funds Requested (\$): 5,000.00

Signature of Faculty Advisor: _____

Date: _____

4-13-2016

(originally - 2/1/2016)



PROPOSAL NARRATIVE

(Max. of 3 pages including figures/tables but excluding budget page, 1" margins, 12-point font. See Sec. XII of RFP for more details.)

Proposals not complying with format guidelines will not be considered.

I. Project Title

Solar-Powered Cook Stove

II. Abstract

As a part of the Appropriate Technology program at Cal Poly, we have worked closely with the technological and business model development of a Solar-Powered Cook Stove. Our research thus far has been productive, yet limited due to our inability to easily work with and develop the technology based off of the needs of the end users. The advancement of this technology will benefit from the opportunity for Cal Poly students to work directly with target communities in Sub Saharan Africa. We are requesting the financial funding from the Warren J. Baker Endowment for the learning opportunity to gather primary market data in order to further develop our technology based off the directly observed needs of end-users in the developing world.

III. Introduction

According to the World Health Organization, "Over 4 million people die prematurely from illness attributable to the household air pollution from cooking with solid fuels" which is more than three times the global fatality rate of AIDS. This highlights an incredible problem that many families in developing countries around the world are experiencing first hand. There are too many people using inefficient cooking mechanisms which lead to a myriad of health problems from smoke inhalation due to cooking with open fires in their homes. Furthermore, there is a large harmful environmental impact that comes from the biomass combustion stoves in millions of homes around the world. Deforestation and GHG emissions are primary areas of concern when assessing the current environmental impact of wood fueled cook stoves.

Technical solutions such as our solar-powered cook stove serve as an innovative and appropriate way to eliminate indoor cooking related deaths while eliminating the associated environmental harm that arises from traditional biomass cook stoves.

IV. Objective(s)

Our **overall objective** is to improve the quality of life for many people by providing solar-based electrical cooking services while reducing environmental impact by displacing environmentally damaging technologies largely related to the burning of biomass such as wood.

Our **specific objective** within the scope of this proposal and possible funding opportunity is to travel to Africa with the non-profit organization AidAfrica in order to gather primary market data, work directly with communities to develop our technology based on their needs, and test implementation of some solar cooking units to evaluate our technology's strengths, weaknesses, opportunities, and threats of implementation in the developing world. We are choosing to partner with AidAfrica specifically because they have pre-existing relationships with communities in Sub Saharan Africa and are interested in the possible use of our solar cooking technology.

V. Methodology

We are asking for funds to go to Sub Saharan Africa with AidAfrica in order to gain insight into the lives and cooking methods of local community members. AidAfrica is a non-profit organization that has successfully implemented 60,000 brick cook stoves among other development projects in the Sub-Saharan region of Africa. The brick cook stove is an increased efficiency stove, still using biofuels as the energy input. This differs from our solar cook stove, however AidAfrica has expressed interest in collaborating with us to develop and distribute our solar cook stove.

More specifically, our solar cook stove technology is comprised of a 100 Watt solar panel that is connected to a heating element in the form of a stove top which will emit heat at 100 Watts. Insulation is key to this technology since 100 W is not enough power to bring water to a boil due to heat losses. Subsequently, the majority of our focus during the upcoming months will be developing a second prototype consisting of easily accessible and sustainable insulators such as Cob and hay. It will have a built in temperature controller to ensure that the temperature does not exceed 130 degrees Celsius to prevent a fire. The solar cook stove will be located in the Student Experimental Farm: a space on Cal Poly campus for students to implement and develop innovative and sustainable technologies.

VI. Timeline

There is already considerable interest and activity surrounding the development of the solar cook stove technology, involving about 20 people. This includes the three principle investigators, six Mechanical Engineering senior project students, one business senior project student, and two Electrical Engineering senior project students. In Dr. Schwartz's appropriate technology class, and eight students including us, are dedicated to photovoltaic cooking.

The continuation of engagement from these 20 individuals will continue from now until June 2016. We plan to further develop the technology, business model, and community relations within that time so that by June 2016 two students will have the necessary existing infrastructure to ultimately travel to Sub Saharan Africa with a strong prototype and understanding of an implementation plan. Subsequently, the information gathered on this trip will serve as a pivotal stage in the development of this technology and dissemination model. The trip itself will last two weeks in June or July (subject to Aid Africa's itinerary). The two weeks will be spent traveling through Sub Saharan Africa to observe the current living and cooking conditions, collect primary market research data (in-depth interviews, focus groups, surveys, etc.) and test the prototype in its intended environment.

VII. Final Products and Dissemination

The final product of our proposed field study will be to experience first hand the reality of our targeted end user. We also hope to investigate what the dissemination of solar energy in the developing world on a community scale. More importantly exploring this cooking alternative could be the beginning of many new appropriate technologies that could tackle the number one cause of children's death in developing countries. We look forward to an exchange of knowledge of cultural norms, technical systems, and the fusion of the two.

VIII. Budget Justification

Our intention is to support Cal Poly students in their 'learn by doing' endeavors to develop this solar cooking technology with the hope of widespread dissemination of these technologies in the developing world. Inside of this, we wish to support the involvement of students to provide hands-on experience in science, engineering, product development, business, and marketing. Hence the funding is only for student travel cost and associated travel costs.

Warren J. Baker Endowment

for Excellence in Project-Based Learning

Robert D. Koob Endowment *for Student Success*



PROPOSAL BUDGET

Student Applicant(s):	
Faculty Advisor:	
Project Title:	Requested Endowment Funding
Travel <i>subtotal</i>	\$
Travel: In-state	\$
Travel: Out-of-state	\$
Travel: International	\$ 2500 (per student)
Operating Expenses <i>subtotal</i>	\$
Non-computer Supplies & Materials	\$
Computer Supplies & Materials	\$
Software/Software Licenses	\$
Printing/Duplication	\$
Postage/Shipping	\$
Registration	\$
Membership Dues & Subscriptions	\$
Multimedia Services	\$
Advertising	\$
Journal Publication Costs	\$
Contractual Services <i>subtotal</i>	\$
Contracted Services	\$
Equipment Rental/Lease Agreements	\$
Service/Maintenance Agreements	\$
TOTAL	\$5000