CAL POLY
SAN LUIS OBISPO

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: Photovoltaic cooking for the developing world

DeptID to be associated with new fund: 115500

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

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 _____

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 Schwartz - Associate Professor	Peter 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

CAL POLY
SAN LUIS OBISPO

FUND DIRECTOR: Peter V. Schwartz

FUND DIRECTOR TITLE: associate Professor

FUND: _____ **EFFECTIVE DATE(S):** _____

FUND TITLE: Photovoltaic cooking for the developing world

AUTHORIZED SIGNATURES:

1. _____
Signature **Print Name & Title**

DELEGATION TYPE: Check all that apply:

☐ Direct Buy Form PO Requisitions other Than Property & Equipment Limit (if any):$_____	☐ Time Cards Employment Forms Limit (if any):$_____	☐ Property and Equipment Funds Limit (if any):$_____	☐ Petty Cash ($100 max.)

2. _____
Signature **Print Name & Title**

☐ Direct Buy Form PO Requisitions other Than Property & Equipment Limit (if any):$_____	☐ Time Cards Employment Forms Limit (if any):$_____	☐ Property and Equipment Funds Limit (if any):$_____	☐ Petty Cash ($100 max.)

3. _____
Signature **Print Name & Title**

☐ Direct Buy Form PO Requisitions other Than Property & Equipment Limit (if any):$_____	☐ Time Cards Employment Forms Limit (if any):$_____	☐ Property and Equipment Funds Limit (if any):$_____	☐ Petty Cash ($100 max.)

4. _____
Signature **Print Name & Title**

☐ Direct Buy Form PO Requisitions other Than Property & Equipment Limit (if any):$_____	☐ Time Cards Employment Forms Limit (if any):$_____	☐ Property and Equipment Funds Limit (if any):$_____	☐ 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 V. Schwartz March 18, 2016

FUND DIRECTOR SIGNATURE **DATE**

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

CAL POLY

Proposal Cover Page

Title of Project:
Photovoltaic Cooking for the Developing World

Proposal Author: Jeff Reeves **Cal Poly Email:** jmreeves@calpoly.edu

Student ID: 007525475 **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
Omar Arriaga		oarriaga@calpoly.edu	Electrical Engineering
Jeff Reeves		jmreeves@calpoly.edu	Mechanical Engineering
Chris O'Day		csoday@calpoly.com	Mechanical Engineering

Note: More team members in attached page.

Faculty Advisor: Peter Schwartz **Department:** _____

Faculty Advisor email: PSchwart@calpoly.edu **Telephone:** _____

Anticipated Start Date: 1/31/2016

Anticipated End Date: 12/10/2016

Total Funds Requested ($): 5000.00

Signature of Faculty Advisor: Peter Schwartz **Date:** Feb. 1, 2016

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

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

Photovoltaic Cooking for the Developing World

II. Abstract

As the cost of Photovoltaic Solar Panels continues to decrease, it will soon become financially beneficial to use them to directly power DC appliances. We are developing a cooker that is powered by photovoltaics to be used in developing countries. Our cooker will reduce the amount of deforestation and respiratory diseases that result from these countries' conventional cooking styles.

The funds will be exclusively used to support two students on a trip to Uganda with Aid Africa. The trip will take place from July 12th - July 30th where we will perform field tests with our prototype cooker.

III. Introduction

Cooking in developing countries causes approximately 4 million deaths each year and contributes to major deforestation due to unhealthy and inefficient cooking methods. Most of these deaths are a result of respiratory diseases caused by traditional "three-stone" cooking. We hope to greatly reduce the amount of biomass burned for cooking by implementing photovoltaic cells into a new stove technology.

Electrical cooking has been suggested as an alternative to biomass cook stoves. However, electrical cookers require over 1000 W of electricity, which is too expensive or nonexistent in many areas. Reducing this to a 100 W PV panel and adding insulation to the system decreases cost without taking away from the performance of the system. This could give developing countries the safe but inexpensive alternative cooking method that they need.

IV. Objective(s)

Our main objective is to create a solar cooker that mimics the local "boil and simmer" cooking method, without burning biomass, that will be accepted into the local communities. We will harness the sun's energy using photovoltaic cells and use it to power a heating element. Insulation will ensure that minimal heat is lost to the environment. The goal for our solar cooker is to be able to boil a liter of water in less than an hour, and maintain a simmering temperature of 200 ^{o}F. This proposal is seeking travel funds to help us test a prototype stove on site and gain local knowledge to improve the design.

final prototype and results from the testing, will be created and presented in the Senior Project Fall Expo for the College of Engineering.

VII. Final Products and Dissemination

Our final product will be a working solar cooker that uses the sun's energy to cook food instead of burning biomass. We will document our final design and the technology behind it in a Final Design Report. Once we finalize our design and manufacturing process, our goal will switch to production and distribution. With the help of Aid Africa, we would like to see our solar cookers in as many Ugandan communities as possible.

VIII. Budget Justification

The grant will be funding two of our team members to take a trip to Uganda, hosted by Aid Africa. The tour will start July 12, 2016 and end July 30, 2016. The cost will be $2,700 per student which includes land travels, hotels, meals, and park admissions. Since two students will be participating the total cost will be $5,400. Therefore, a grant of $5,000 will greatly help us pay for our expenses towards our trip to Uganda. With this trip, we will be able to integrate our solar cookers into Ugandan communities, greatly improving their quality of life.