



**Materials, Services, Facilities and Technology Fee  
Fiscal Year 2015-2016 Budget Request Form\***

**DUE: Friday, January 9, 2015 @ 5:00 P.M.**

Please return completed requests via email to [gina.matibag@csuci.edu](mailto:gina.matibag@csuci.edu)

If you have questions about this form, please contact Gina Matibag at (805) 437-3320  
For additional information please consult the MSFT web page.

**Project or Activity Title:** Sustainability and Student Research at the Santa Rosa Island Research Station

**Name of Organization Requesting Funds:** Santa Rosa Island Research Station **Date:** 8-Jan-15

**Requestor:** Cause Hanna **Contact Phone Number:** (805) 437-3785 **E-mail:** [cause.hanna@csuci.edu](mailto:cause.hanna@csuci.edu)

**Amount of MSFT Funding Requested:** \$12,955

**Date Funding Needed by:** June 2015

**Will you receive funds from any other source(s)?** NO

*If yes, please detail amount requesting from other source(s) as well as your total request for fiscal year 2014-2015 (including request from MSFT).*

**Has this project or activity previously received MSFT funding?** NO

*If yes, please attach copy of report*

**A. Brief Project Description**

The mission of the CSUCI Santa Rosa Island Research Station (SRIRS) is to advance the interdisciplinary knowledge and natural and cultural resource stewardship of the Channel Islands through long-term research, inquiry-based education, and public outreach. Specifically the SRIRS will place CI students at the center of the educational experience by:

- 1) Implementing an experiential and interdisciplinary curriculum that engages students across academic levels.
- 2) Developing and supporting student knowledge and critical thinking skills through inquiry-rich learning activities.
- 3) Utilizing project-based learning activities to involve students in real-world data collection, analysis, and problem solving within Channel Islands National Park.
- 4) Emphasizing undergraduate research that will enable students to gain perspective on interdisciplinary issues in a complex system, thus change students from passive to active learners.



This proposal is requesting funding for SRIRS infrastructure that will benefit the educational experience of students at CI by supporting the objectives listed above. Our proposal is requesting funding for 1) Sustainability and Energy Efficiency and 2) Undergraduate Research Equipment.

*Sustainability and Energy Efficiency.* An objective of the SRIRS is to successfully promote and demonstrate the principles of sustainability and energy efficiency. To encourage the development of sustainable behaviors and actions the SRIRS needs effective communication tools that create transparency. We are requesting funding to provide SRIRS users real-time feedback on how much energy (electrical and propane) and water they use and how much waste they produce. This participatory approach will motivate CI students to adopt new energy reduction behaviors and foster a sweeping new dialogue about personal and campus sustainability. Specifically, the tools below will enable the SRIRS to conduct sustainability competitions, showcase real-time user performance, and empower users to become active participants in energy reduction and resource management.

- 1) *Real-Time Electricity Monitor:* Will provide a real-time and an overall summary of electricity usage.
- 2) *iPad:* Will be used to display the real-time electricity usage and the energy and water usage of previous SRIRS occupants (i.e. CI classes and students).
- 3) *Propane Meter:* Will provide a real-time and an overall summary of propane usage.
- 4) *Hanging Scale:* Will be used to obtain the weight of the compostable, recyclable, and landfill waste.
- 5) *Drum Composter:* Will be used to reduce the landfill waste generated at SRIRS and teach SRIRS users about composting.

The SRIRS is an ideal location to promote and demonstrate the principles of sustainability and energy efficiency because living on an island limits resource availability and makes resource consumption and the generation of waste more apparent. The SRIRS obtains its' electricity through a mix of solar, wind, and diesel generated power all of which are located in close proximity of the research station. Water is obtained from a thirty foot well that draws from the watershed the research station is located within. Waste generated on the island must be transported by boat back to the mainland. SRIRS visitors are more willing and able to develop sustainable behaviors because they literally see how and where their energy is attained and ride back on the boat with their waste.

**Figure 1.** Pictures of the SRIRS solar array and well.



The requested items will further promote the adoption of sustainable behaviors by CI students by providing them real-time feedback on their energy and water use and enable them to compete with previous and future CI groups visiting the SRIRS. The participatory approach at the SRIRS will create a more energy efficient CI community and foster a new dialogue about CI campus sustainability.

*Undergraduate Research Equipment.* The SRIRS officially opened its' doors to the CI campus and surrounding community during the spring of 2014. By the end of 2014 the SRIRS logged 2,516 user days which included visits by 357 students representing 10 different CI programs. Twenty seven CI students are currently performing



yearlong research projects on Santa Rosa Island, in collaboration with professionals, which will contribute to the management of the natural and cultural resources within Channel Islands National Park. Basic field and laboratory equipment has been purchased to enable CI students to perform novel and applied research at the SRIRS, however additional equipment needs to be purchased in order to support a wider variety of research projects and undergraduate research opportunities.

**Figure 2.** Photos of CI students performing research on Santa Rosa Island.



The CI community was surveyed to determine the field and lab equipment that is essential to ongoing and future CI undergraduate and faculty research on Santa Rosa Island. The list in Section B represents the field and laboratory items that were deemed essential by CI students and faculty members.

The SRIRS has created experiential and interdisciplinary research opportunities that have enabled CI students to collaborate with a wide variety of professional organizations and expand on our knowledge of the Channel Island’s ecological and cultural patterns and processes. As a result, these students have gained research experiences that will make them more prepared for and competitive within the job market. The field and laboratory items we are requesting will enable the SRIRS to provide more CI students with research opportunities and further expand on the research questions they can address.

**B. Project/Activity Budget**

In total we request \$12,955 to complete the proposed SRIRS sustainability and energy efficiency and undergraduate research equipment projects.

*Sustainability and Energy Efficiency.* We request \$3,000 to purchase the **equipment** for the proposed sustainability infrastructure and communication project (Table 1).

**Table 1.** Sustainability equipment costs.

Item	Cost per Item	Quantity	Total Cost
Drum Composter	\$750	2	\$1,500
Real-Time Electricity Monitor	\$500	1	\$500
Propane Meter	\$250	1	\$250
Hanging Scale	\$100	2	\$200
iPad	\$550	1	\$550
<b>Total</b>			<b>\$3,000</b>

*Undergraduate Research Equipment.* We request \$9,955 to purchase the proposed field and laboratory equipment (Table 2).

**Table 2.** Undergraduate research equipment costs.

<b>Item</b>	<b>Cost per Item</b>	<b>Quantity</b>	<b>Total Cost</b>
Refrigerator /Freezer	\$750	1	\$750
Microscope	\$2,000	2	\$4,000
Weather Station	\$2,500	1	\$2,500
Spring Scale	\$50	3	\$150
Beaker	\$25	5	\$125
Aspirator	\$12	5	\$60
Straight Teasing Needle	\$10	1	\$10
Flask	\$25	4	\$100
Graduated Cylinder	\$25	1	\$25
Vials	\$75	1	\$75
Tally Counter	\$10	10	\$100
Densimeter	\$110	1	\$110
Rechargeable Batteries	\$25	6	\$150
Icom Radio	\$600	3	\$1,800
<b>Total</b>			<b>\$9,955</b>

If our proposal is funded at a reduced level our priority of the proposal items are:

- 1) Sustainability and Energy Efficiency (\$3,000)
- 2) Undergraduate Research Equipment (\$9,955)

### **C. Project Assessment**

The proposed projects will be assessed by quantifying the 1) change in sustainable behaviors and attitudes of CI students visiting the SRIRS and 2) the user days of the field and laboratory equipment for CI students. We will continue to survey all CI students who use the SRIRS and specifically ask them how their energy efficiency attitudes have changed and how the field and laboratory equipment has impacted their educational experience.

The project will acknowledge the use of CI student funds by installing a plaque stating so at the energy dashboard and explicitly stating that the CI students were the source of funding within our SRIRS user guidelines and facility description. The project directly promotes sustainability on the CI campus by promoting and demonstrating the principles of sustainability and energy efficiency.

### **D. Sources of Project Support**

The MSFT is currently the only source of support for the proposed projects. We are actively seeking private donations to help support additional lab and field equipment needs.

**Fiscal Management:** Project sponsor's unit or department may be responsible for incurred over and above what is funded through the MSFT. If support is requested for costs beyond initial award, or for use on activities or materials not included in approved proposals, the project sponsor must seek approval from the MSFT committee. The project sponsor will be responsible for managing purchases and transfers of funds related to approved projects.

Please review MSFT web page for information about the fund and its objectives before submitting your application.

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