

Third Call for Proposals 2015-2016

(Concept Note Due Date extended on 7.15.15)
(Indirects remain in Chancellor's Office added on 8.5.15)
(Total available funds increased to \$708,000 on 8.14.15)

SUSTAINABILITY RESEARCH AND TRAINING PROGRAM (SRTP)

Integration of Social and Technical Aspects of Sustainability

1. Synopsis

This program is a result of the agreement between the **University of California, Davis (UC Davis)** and **Diamond Developers (DD) of Dubai, UAE** to conduct research and training relating to technologies, systems, social conditions and experiences entailed in building, living in, and maintaining communities that are designed for sustainable living. The vision of the program is interdisciplinary, collaborative and engaged. In this third call, the focus is to understand and measure the integration of social and technical aspects entailed in building, living in, and maintaining communities which are designed for sustainable living. The Sustainable City (TSC) in Dubai will serve as a living laboratory for projects. Research activities may take place in Dubai, at UC Davis, or elsewhere, depending on the requirements of the proposed research project. Project PIs must be from one of the six BCBCB consortium universities (American University of Beirut, American University in Cairo, Lebanese American University, University of California Davis, Birzeit University, American University of Sharjah). All projects are strongly encouraged to include collaboration among BCBCB partners.

2. Total Program Funding

For this solicitation, a total of \$708,000 is available. Individual research project budgets should not exceed \$160,000, including all subcontracts to Consortium partners and others, travel to Dubai, and inclusive of UC Davis applicable indirect costs. No match funding is required. Awards will be made for 1 or 2 years duration. The estimated number of proposals to be funded is between 3 and 5. The award size and duration of each project will be determined based on the nature of the proposed activities.

3. Proposal Schedule

Solicitation released:	Monday, April 20, 2015
Concept Note due:	Wed., 5pm, US PACIFIC TIME, October 29, 2015
Notification of Invitation to Submit Full Proposal:	Thursday, December 10, 2015
Final Proposals due:	Wed., 5pm, US PACIFIC TIME, March 2, 2016
Notification of Awards:	Wed., April, 27, 2016
Effective project start date:	July 1, 2016

4. Program Scope

One- or two-year grants (up to \$160,000 total project cost including UC Davis' applicable indirect and all subcontract costs) to investigate open fundamental questions and

unsolved **social issues** linked to sustainability practices for the purposes of designing, implementing, and maintaining sustainable communities. **Proposals must address issues of relevance in the development of sustainable communities for environments in or similar to the UAE.** Multiyear projects are subject to annual review.

As a member of the BCBCB consortium of universities (For more information, see <http://sjoseph.ucdavis.edu/bcbcbc>), UC Davis seeks to include consortium partners in research, training, and outreach conducted through the Sustainability Research Program (SRTP). All proposals are strongly encouraged to include under subcontract at least one partner from the BCBCB consortium to collaborate in the research project. Representatives from each of the partner institutions have been appointed to help facilitate the identification of BCBCB collaborators. Information on how to contact these representatives and solicit participation in proposals may be found on the website of the BCBCB Consortium: <http://sjoseph.ucdavis.edu/bcbcbc/dubai-sustainable-research-and-training> . For questions or additional information, contact the SRTP Analyst at srtp@ucdavis.edu .

5. SRTP Targeted Areas of Research: Integration of Technical and Social Aspects of Sustainability

For this solicitation, Diamond Developers is requesting research topics related to the integration of technical and social aspects of sustainability.

Problem Statement: The Sustainable City (TSC) is a new community with the goal of aligning community interests in a high quality of life with the principles of sustainability. TSC will have 5 neighborhoods of 500 residents each. Sales of the first 60% of units have been primarily to expatriate professionals from 25 countries around the world. Residents are projected to begin occupancy in the summer of 2015. Projections assume average residency of 5 years. The ultimate success of the city will rely on both an infrastructure designed for sustainability (e.g. eco-friendly building materials and design, land use, renewable energy, solid waste and wastewater management, low-carbon transportation, etc.) and a culture which promotes sustainable behaviors.

Some ideas for research questions include the following, which are meant to be suggestive but not exhaustive:

1. What human-device information systems and interfaces will support a culture of sustainability and promote pro-sustainability decisions at the Sustainable City and elsewhere?
2. What are the information needs for promoting or supporting a culture of sustainability? What real time information feedback and information delivery systems will have greatest utility and impact?
3. How can psychology and engineering design for effective decision making and

support sustainable cultural norms?

4. What are effective techniques and associated activities for reducing household water usage?
5. What are effective techniques and associated activities for household wastewater reuse?
6. What are effective techniques and associated activities that maximize the sustainable solid waste management? Integrated solid waste management addresses two basic aspects of dealing with waste: 1) pollution prevention through waste and risk minimization at the source of production; and 2) natural resource conservation: which includes proper techniques and social acceptance of recycling and/ or recovery programs that are environmentally sound (e.g. organic composting and solid non-organic waste recovery).
7. What forms of interactive environmental learning promote sustainable choices in newly formed cities?
8. What are effective techniques and associated activities to maximizing green energy choices?
9. What are effective techniques and associated activities to promote in-house design for insulation, aeration and air circulation? The UAE and other Gulf countries are signatories of the Kyoto Protocol for environmental protection through a set of developmental low-energy activities and solutions for building and urban design. Traditional planning of architecture in the Gulf region is based upon a complex response to climate that employs active and internal design for cooling and heating of internal urban spaces as well as external heat insulation. The identification of such design strategies and other associated activities could lead to low energy architecture especially in newly constructed cities. Such approaches to traditional building design can reduce the building energy usage and its related carbon dioxide emissions and can contribute to the enhancing of environmental awareness of inhabitants, architects and planners.
10. What are effective techniques and associated activities which promote eco-technical and social integration for greywater and zero waste engineering in the Sustainable City? What are the components of an eco-technical-social system? How are they developed and practiced? What are the opportunities to engage current and future residents of the Sustainable City in utilizing and adjusting technologies for sustainability?
11. What are effective techniques and associated activities which promote sustainable relationships between water, food and energy in urban eco-cities?
12. How can the Sustainable City in Dubai positively impact natural resource management beyond its borders?

13. How can the residents of the Sustainable City support sustainable food production?
14. How can children living in and near the Sustainable City learn about and promote sustainable lifestyles?
15. How can the museum housed in the Sustainable City teach visitors practical ways to support fundamental sustainable practices? These may include:
 - a. Sustainable gardening which would include: integrated pest management; water management, fertigation, irrigation.
 - b. What role will the museum have influencing food production for residents of Dubai? This may include nursery and greenhouse management, crop production, cooperative purchasing from nearby areas.

6. Eligibility Information

Researchers from any of the BCBCB partner Universities (American University of Beirut; the American University in Cairo; the Lebanese American University in Beirut; the University of California Davis; Birzeit University, Palestine and American University of Sharjah) may initiate Concept Notes, as Principal Investigators, in partnership with a UC Davis co-PI. UC Davis will be the lead institution, with participation of other BCBCB consortium partners to be provided under subcontract to UC Davis. Subcontracts to other institutions outside the BCBCB consortium are permitted. An investigator may serve as principal investigator (PI) on only one proposal. PIs must have PI status at UC Davis at the time of proposal.

7. Intellectual Property

7.1 Nondisclosure Agreement:

Reviewers will use any confidential information provided in each proposal only for the purpose of evaluation of the proposal for suitability for funding, and for no other purposes. Except for sharing with the sponsor, during the review period, and for a period of two (2) years thereafter, reviewers will keep the information provided in each proposal as confidential, but only to the extent that such information (a) was not known to the reviewers prior to review in the submitted proposal, or (b) was publically available at the time incorporated in the proposal, or later becomes publicly known without disclosure by the reviewers. Confidential information, as used here, may include formulations, techniques, methodology, assay systems, formulae, procedures, tests, protocols, data, reports, know-how, business plans and business developments, information concerning the existence, scope or activities of any research, and development.

7.2 Authorship

The investigators on each project, including all subcontractors, will be required to establish protocols for authorship, specific to their proposal, prior to starting research. This should include a statement on their principles of cooperation, methods of assigning authorship, a definition of contributions that will qualify for co-authorship, types of activities that would not qualify for authorship but might qualify

for acknowledgement or other credit, and how authorship will be credited.

8. Application Procedures

Submission of a full proposal to the SRTP is by invitation based on prior submission and acceptance of a Concept Note. Both Concept Notes and full proposals, with all required attachments, are submitted through the UC Davis Research Funding System, <http://research.ucdavis.edu/proposals-grants-contracts/funding-opportunities/rfs/>. UC Davis investigators with principal investigator status automatically have access to submit internal applications and may delegate proxy status to others. External users may obtain access through the UC Davis Temporary Affiliate process: <https://computingaccounts.ucdavis.edu/cgi-bin/taf/index.cgi>. Please plan on submitting prior to the final due date to avoid technical problems. Non-UC Davis PIs are encouraged to submit using the Temporary Affiliate status. Please contact srtp@ucdavis.edu if assistance is needed.

8.1. Concept Note

Submit a brief Concept Note (**maximum 3 pages**) outlining the nature of your proposed research concept. The Concept Note should identify i) the PIs and other investigators, and provide ii) title, iii) 250 word abstract, iv) scope, v) objectives, vi) potential impacts, vii) timeline, and viii) preliminary budget estimate for the intended research. CVs of all PIs should be also submitted. Each Concept Note will be reviewed by the SRTP Scientific Advisory Committee (see **section 8** below) and serves as the basis for selection by DD, in consultation with the Scientific Advisory Committee, to submit a full proposal. Concept Notes should therefore provide sufficient information to assess the relevance and importance of the work to the SRTP. BCBCB consortium partners should be identified in the Concept Note. Concept Notes must be submitted by 5 p.m. United States Pacific time on the due date indicated above under **section 3 Proposal Schedule**. Notification of invitation to submit a full proposal will be issued by the date indicated above. Assistance in identifying BCBCB consortium partners will follow notification of invitation to submit a full proposal.

8.2 Full Proposal

Instructions for meeting requirements of the UC Davis Sponsored Projects Office (SPO) can be found at <http://research.ucdavis.edu/proposals-grants-contracts/spo/spo-proposal/>.

Each proposal should include cover sheet, statement of work, budget and justification, data sheet, and subcontractor verification. You will receive an email confirmation within 48 hours of receipt of your proposal. If you have not received a confirmation within 48 hours of submission, kindly contact frawright@ucdavis.edu.

Full Proposal Format and Instructions

The proposal application consists of the following components:

1. Cover Sheet (provided below)

2. **Project Description:** (5 pages maximum) Describe the scope, objectives, detailed research methodology, research team including BCBCB partner(s), and other elements of the project as outlined below. Formatting requirements: 1-inch margins all around; font no smaller than Times New Roman 12. The project description must include the following sections, with headings that correspond to each section:
 - a. Abstract (1 page maximum)
 - b. Key personnel: Include all key personnel and their departmental or BCBCB consortium member affiliation and role on the project (PI, Co-Investigator, Post-doctoral researcher, graduate student researcher, consultant, etc.)
 - c. Introduction and Program Objectives
 - d. Background and Preliminary Studies
 - e. Research Design and Methods (include a description of all methodology, processes, and equipment that will be used)
 - f. Justification and Anticipated Impact including scientific merit and potential commercial applications
 - g. Timeline and Milestones: Indicate the entire proposed period of support, and include specific expected project milestones.

The following items are not included in the 5-page limit and can be appended at the end of the description as appropriate:

- h. Literature Cited
 - i. List of potential background intellectual property applied to the proposed project. If none, indicate "None."
3. **Budget:** Provide a budget sheet for each year of the proposal, using only the Excel budget template provided. The sheets will auto-compile individual year amounts to a cumulative budget sheet. Use a separate workbook for each subcontract, if applicable. *Do not use the budget form included in the online application.*
 4. **Budget Justification:** Provide a narrative justification of expenses, using the format provided. If an equipment purchase is requested as part of the proposal, a manufacturer's quote should be included.
 5. **Curriculum Vitae (CV):** A two page CV should be included for each of the key personnel and partners listed in item **2(b)** above, including a list of relevant awards and publications in the past five years.
 6. **Subcontractor Verification:** Append signed institutional letter of support and budget for each proposed subcontractor including the BCBCB partner(s).

8.3. Budgetary Information

Applicants should develop a carefully crafted budget in line with the scope and scale of the project. The role and proposed effort for each investigator (PI, Co-Investigator, BCBCB collaborator, etc.) should also be commensurate with the activities proposed.

The budget should accommodate travel for relevant researchers to the symposium in Dubai. (Lodging will be provided.) It should include all taxes, shipping, and installation charges for any equipment purchases.

Indirect costs should be computed using the applicable campus negotiated indirect cost rate and a modified total direct cost base.

The annual cost limits by proposal category noted above include direct and UC Davis's applicable indirect costs.

9. Proposal Merit Review Criteria

Full proposals will be selected for funding based on a review of scientific and technical merit. All proposals will be reviewed by an independent Scientific Advisory Committee composed of faculty and staff from UC Davis and a faculty representative from one of the BCBCB consortium partners (on annual rotation). Recommendations for funding will be made to DD which will retain responsibility for final award decisions, in consultation with the Scientific Advisory Committee. Review comments of proposals that are not selected will be available following notification of awards. The Scientific Advisory Committee will also have responsibility for review of the Concept Notes with recommendations to DD for projects to invite for full proposals.

Scientific and Technical Criteria:

Each proposal should address the following selection criteria:

1. **Approach:** Are the conceptual framework, design, methods, and analyses adequately developed, well integrated, well-reasoned, and appropriate to the aims of the project? Does the proposal acknowledge potential problem areas and consider alternative approaches for enhancing the probability of success? Are social aspects integrated into the research? Does the project utilize the living laboratory of The Sustainable City (TSC) in Dubai? (25%)
2. **Budget:** Is the budget request appropriate to the work proposed and adequately justified? (10%)
3. **Innovation:** Is the project original and innovative? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies? (20%)
4. **Investigators:** Are the investigators qualified to carry out the work? Is the work proposed appropriate to the experience and training of the researchers? Does the investigative team bring complementary and integrated expertise to the project? Does the scientific environment in which the work will be done contribute to the probability of success? (20%)
5. **Significance:** Does the study address an important problem? How will sustainability scientific knowledge or applications be advanced? What will be the effect on concepts, methods, technologies or systems influencing the development of sustainable communities? Is the research applicable to the on-the-ground situation at the Dubai Sustainable City? (25%)

10. Reporting Requirements

Researchers funded by the SRTP must submit the results of their research in a final project report within three months of project completion. An annual summary of accomplishments is to be submitted at the end of each year. Researchers are expected to publish their results and make them available to the SRTP for public dissemination.

Where intellectual property or human subjects are involved, researchers will follow standard procedures of UC Davis for ensuring all necessary protocols and disclosures are satisfied.

Cover Sheet
UC Davis – Diamond Developers
Sustainability Research and Training Program
Send to: srtp@ucdavis.edu

Program Information	
Applicant Name	The Regents of the University of California, Davis Campus
Program Title	2014-15 UC Davis – DD Sustainability Research and Training Program
Agreement Name	Master Collaboration Agreement
Sponsor Name	Diamond Developers of Dubai, UAE
Proposal Due Date	29 October 2015 5 p.m. PDT
Principal Investigator(s)	
PI Name	
Title	
Department	
Telephone	
Fax	
e-mail Address	
Project Title	
Project Period	A. Start Date: 7/1/2016 B. End Date:
Amount Requested (Total)	\$
Budget Amount (per year up to two years)	Year 1: \$
	Year 2: \$
Project Abstract	
Administrative Assistant or other person to notify:	
	Department Contact
Name	
Title	
e-mail Address	
Telephone	
Signatures	
PI	Date

**PROPOSAL APPLICATION FORM
UC DAVIS – DD SUSTAINABILITY RESEARCH AND TRAINING PROGRAM**

1. ATTACH COVER SHEET

Project Title:

Principal Investigator (name and affiliation):

BCBCB Partner (name and affiliation, may include more than one):

2. Project Description:

Sections a – i (see call for proposals for description)

3. Budget:

Prepare according to budget template provided

4. Budget Justification:

5. Curriculum Vitae:

6. Other Subcontractor Verification:

Principal Investigator (Last, First, Middle):

SUSTAINABILITY RESEARCH AND TRAINING PROGRAM

Detailed Budget For The Period Of:	FROM:	7/1/2015	THROUGH:	6/31/2016
NAME	ROLE ON PROJECT	TOTAL SALARY REQUESTED	FRINGE BENEFITS	TOTALS
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
SUBTOTALS		\$ -	\$ -	\$ -
CONSULTANT COSTS			\$ -	\$ -
			\$ -	\$ -
EQUIPMENT <i>(Itemize)</i>			\$ -	\$ -
			\$ -	\$ -
SUPPLIES <i>(Itemize by category)</i>			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
TRAVEL <i>(Domestic/Foreign)</i>			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
OTHER EXPENSES <i>(Itemize by category)</i>			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -

	\$	-
	\$	-
GSR Tuition and Fees	\$	-
TOTAL DIRECT COSTS	\$	-
<i>Modified Total Direct Costs</i>	<i>\$</i>	<i>-</i>
<i>TOTAL INDIRECT COSTS</i>	<i>\$</i>	<i>-</i>
TOTAL PROJECT COSTS FOR THE BUDGET PERIOD	\$	-