**2018 California Higher Education Sustainability Conference**

**Best Practice Award Self-Nomination Form**

Please submit your answers through Proposal Space at: <https://proposalspace.com/calls/d/849>. If you have special needs or technical difficulties though, you may email this proposal to kmaynard@geog.ucsb.edu and we can enter your responses into Proposal Space for you. This form can be used to draft responses or collaborate with other co-submitters/speakers.

**Project Title (required, 10 word limit): Climate Change Action Research Group**

This title will be used on your award plate and in the conference program if your project is selected. In both cases, we will list both the project title and the campus name so we encourage you not to include the campus name in the title.

**Campus Name:**

California Polytechnic State University, San Luis Obispo

**Which campus system did the project occur in? (required)**

California State University

**Project Location(s) (required)**

Cal Poly, San Luis Obispo

**Brief Synopsis (required, 80 word limit)**

Please provide a brief description of your project that may be used to promote your talk if you are accepted. Tip: If you also applied to speak via the general call for proposals for CHESC, you can use the brief summary from that submission here.

The Climate Change Action Research Group was founded at Cal Poly in 2016 to foster meaningful undergraduate research opportunities regarding sustainability. The group of interdisciplinary undergraduate students have researched student perceptions around climate change, carbon centric major capital planning, efficiency within sustainability initiatives, and many more sustainable topics. Funded through the Honors Program, the group provides tailored results enabling decision makers to make more informed, accurate conclusions about initiatives on campus. The group has given over 35+ students an opportunity to learn about the research process, and collaborate with organizations such as the Green Campus Team, Cal Poly Facilities Department, and the City of San Luis Obispo.

**Which category best fits your proposal? (required)**

Student Sustainability Leadership

**Completion date or implementation period (required)**

Projects must be completed in the past 2 years, as early as 2016-2017, (for all categories other than overall sustainable design). Overall Sustainable Design Projects can include projects completed in the past five years, as early as 2013-2014. Projects must be completed and have results/measurable data to report by the time of submitting the application for an award.

 The Climate Change Action Research group formed in the Fall of 2016 and is still running. This application details the accomplishments and pursuits of the group from September 2016 to February 2018.

**Overview/Abstract (required, 300 word limit)**

This should be a narrative of project goals and strategies. Tip: If you also applied to speak via the general call for proposals for CHESC, you can use the 300 word overview/abstract from that submission here. (p.s. This is also approximately the same length as AASHE proposal descriptions if you are applying to both of these conferences and want to copy/paste there too.)

Founded in the Fall of 2016, the Climate Change Action Research Group (CCARG), was started at Cal Poly to address a gap in undergraduate research opportunities and sustainability research on campus. Ran through Cal Poly’s honors program, CCARG is made up of a diverse team of interdisciplinary researchers. Past and ongoing projects illustrate successful research focused on various components of existing work intended to improve mitigation of climate change at Cal Poly, including:

· Climate change aptitude survey: Questionnaire given to 728 students to analyze different understanding and behavior variables of the Cal Poly student body.

· Impact of sustainability initiatives/projects on carbon offset: Comparison of environmental impact of the two programs to analyze the strengths and weaknesses of both in terms of impact and efficiency.

· Perceived visual barrier analysis: Determining the impact of a changing lids of recycling and trash cans with varying degrees of perceived opening difficulty to explore the influence on waste stream cleanliness.

· Social connector identification at Cal Poly: Analyzing the shared characteristics of the most influential people on campus to ultimately utilize targeted sustainability messaging at individuals with social capital.

· Carbon Strategic Planning Project with the Cal Poly Facilities department. This broadens the portfolio of research completed by CCARG, but holds true to their central goal of continuing undergraduate sustainability research. CCARG has delivered the BESP Tool, which accurately predicts raw data relating to building energy systems. Notably, the tool does not include energy modeling, but introduces a novel system for modeling HVAC performance scenarios.

These projects bring together students from engineering, agriculture, math and science, architecture, and business. The group is continuing to grow and pursue further collaborative efforts to provide applicable sustainability research.

**Relevancy to the Best Practice Program (required, 200 word limit)**

Please provide a brief narrative of the project, highlighting those project features that qualify it as a best practice readily replicable on other campuses.

While there are many undergraduate research opportunities, there are many students looking for an introductory research opportunity regarding something they are passionate about. By focusing on teaching about research methods and sustainable topics, the group is contributing to the creation of a more informed and capable student body that can tackle sustainable problems within higher education. Secondly, there is huge opportunity for emissions and impact gains from more in-depth, tailored exploration of existing sustainable initiatives on campus. By having a dedicated student team, the benefit of contextually specific data to make more informed decisions regarding student population is clear.

An example of the importance of the groups efforts comes from the Climate Change Aptitude Survey. The survey included a sample of 728 students and explored their existing understandings, perceptions, and actions regarding climate change. This data is currently being prepared to be delivered to the college in hopes of creating efforts to develop a more sustainable student population.

The resources involved in the study are not monetary or physical, but purely time invested by members of the group. This key element makes CCARG an easily replicated group on any campus, by any students.

**Collaborative Design and Implementation (required, 200 word limit)**

Describe the way in which this project incorporated stakeholders from multiple departments across campus and the local and regional off-campus community. Describe how collaboration produced sustainable solutions and improved the project’s performance. Tip: this also overlaps with CHESC call for proposals form.

CCARG has collaborated with the honors program, faculty, students, the facilities department, and is developing a relationship with the city to pursue initiatives. The collaboration with the facilities department is highlighted by the Building Energy System Projection Tool project which provides the starting point to analyze retrofit opportunities on campus. Cost and energy savings outputs can be utilized by Facilities in identifying the most cost-efficient projects to be further investigated by energy professionals. Ultimately, the tool allows Cal Poly to evaluate full campus retrofit options to test their efficiency and has the potential to be scaled for use on other campuses.

The implementation of CCARG’s survey involved cooperation from professors and lecturers from all departments. CCARG has also worked with Mustang News, Cal Poly’s newspaper, to announce results as well as outreach to students looking for research on campus. Working with all ranges of students, faculty and staff, and Cal Poly organizations has helped collection of accurate and current data, as well as become a known sustainability entity on campus.

CCARG is currently working with the City Manager of SLO to produce research on Climate Action Plan implementation practices. The program is funded through the honors program and has collaborated with them to provide course credit for students who participate in the group for a full year.

**Education and Outreach (optional, 200 word limit)**

For operational projects, please also describe any educational and outreach components of your project such as tours, signage, charrettes, etc.

As a team of student researchers, CCARG maintains collaborative partnerships with groups that share and support our mission. Through these partnerships we create educational pathways between various groups in the community that creates a pool of resources for us to use in pursuit of our team’s goals. For instance, the recently set up a partnership between CCARG and San Luis Obispo City Planning municipality will bring the research methods from campus and apply them to real-world experiences in our local community. This collaboration hopefully serves as a conduit for future application of our research capabilities, especially on projects regarding policy and program analysis. Projects of interest with the city include an assessment of the city’s GHG inventory, create incentive programs for business and homeowners to reduce their GHG emissions, and create metrics for measuring carbon sequestration in our local oak woodlands. Not only does this partnership hone valuable skills, it will foster a long-lasting relationship between the college and the city. This is a prime example of the initiative the team takes to educate the public through partnerships with groups that share and support our sustainability goals.

**Total Project Cost (required)**

The group is volunteer based and does not have overhead costs as many projects are pursued without funding. The incentives enumerated below describe funding received to bolster project application and fund summer research.

**Total Incentives Received (if applicable)**

$8,000 in total funding. $5,000 through a grant from the College of Engineering and $3,000 from the Cal Poly Honors Program.

**Quantitative Savings and Benefits**

Strong proposals will have quantitative savings in at least one of the following 12 areas. Most proposals will only submit savings in one to three metric areas below. That said, please respond to any areas below where metrics are available.

1. **Number of people reached by your program (optional)**

Please describe how you determined this number including describing the method in which you reached your audience. For example, you might say that we reached 500 people on Facebook, 250 people at workshops, and 1,000 in website views.

Throughout its time at Cal Poly 35+ students have participated directly with the production of research through CCARG. Through survey participation and class visitation, CCARG has reached over almost 1000 individuals. The group also been featured in Mustang News, which is the university newspaper that reaches students, faculty, and stakeholders. The survey report has been disseminated and made available for the entire student body. More importantly, data is published and available for students to use across campus on future projects on research.

1. **Learning Outcomes (optional)**

If you are applying for an academic or outreach award, please indicate what metrics you used to assess your learning objectives, how you tracked those metrics, and what the measurable results were.

 The goals of the Cal Poly Climate Change Action Research are twofold: to produce meaningful research regarding sustainability, and to provide undergraduates an opportunity to learn critical research skills through the entire process. Both of these provide critical learning outcomes. The first, production of sustainability research, provides learning outcomes by creating a more informed resources base regarding the sustainability on campus. Currently, two large large pieces of work have been produced by the research group that have provided learning opportunities for the broader population of students, specifically those within the environmental community. The first is the Building Energy System Projection Tool Report, which has been published digitally and made available to the campus community. The student researchers were able to gather significant learning explored by the student researchers. Throughout the summer the students learned about successful grant writing, and fully funded the project, literature review tactics when exploring non-traditionally academic data, energy modeling techniques, major capital project planning, and many other aspects of green building.

 The second project produced by the group that has provided meaningful learning opportunities for undergraduate researchers is the Climate Change Aptitude Survey. This

project has provided over 20 students with opportunities to learn about: literature review, institutional review boards/human subjects approval, survey construction, appropriate surveying techniques, data processing with statistical software, infographic construction, dissemination tactics, technical editing, and submittal process for publication.

 CCARG’s central mission is student growth and this precipitates in numerous meaningful ways.

1. **Measured annual energy savings in kWh (optional)**

If measured savings are unavailable, estimated savings will be accepted provided an explanation is included as to how savings were calculated.

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If measured savings are unavailable, estimated savings will be accepted provided an explanation is included as to how savings were calculated.

1. **Estimated greenhouse gas emission reductions in metric tons CO2e (optional)**

Please state all assumptions used for calculations and indicated if the reductions are annual or one-time.

1. **Measured annual water savings in gallons (optional)**

If measured savings are unavailable, estimated savings will be accepted provided an explanation is included as to how savings were calculated.

1. **Estimated annual waste reduction in pounds (optional)**
2. **Actual or estimated annual cost savings (optional)**

Please state assumptions

1. **For the energy efficiency categories as well as overall sustainable design category, provide estimated annual energy savings as compared to Title 24 Energy Code in percent better than baseline. (optional)**

n/a

1. **Percentage of total food and beverage purchases that is local (under 250 miles) in origin and/or meets one or more third party-certified sustainability criteria (e.g. USDA certified organic). List the third party-certified sustainability criteria included (optional)**
2. **List any green business or green restaurant certifications that this project achieved (optional)**
3. **Additional environmental, social, and/or economic sustainability benefits (optional, 300 word limit)**

Benefits from the publication and distribution of the survey data, and other projects, will be seen in future years; Cal Poly facilities and Green Campus team will be using the data to tailor their sustainable initiatives to be more student centric. Also, showing that the lack in sustainability courses found in certain colleges is associated with lower awareness of climate change be be used by the office of the registrar and department heads to more thoroughly distribute relevant courses to the areas that need it

**Photograph(s) of Project (required)**

Overall Sustainable Design submissions are required to upload images showing overall design of the project with at minimum one interior and one exterior photo included. Other projects can include any photo that represents their project. Photos may be used on CHESC website and program.

**Supporting document(s) (optional)**

Up to two supporting documents are allowed, no more than 10MB each. These could include press releases, excel sheets, graphs, more photos, design documents, flyers, etc.

**Presentation Style and Equipment/Space Needs**

**Please describe any media needs you anticipate having (required, choose at least one)**

Please select all that apply.

* PC Laptop
* MAC laptop (we request that you use the PC laptop available unless you really need a MAC)
* Need to use your own laptop (we prefer that you use ours, but can accommodate this if need be)
* Projector and Screen
* Sound from the laptop
* Ability to play videos on the laptop
* Other needs for high speed internet (not just going to a webpage)
* Quiet people speaking (might need microphones where those aren't always needed)
* Flipcharts and markers
* Index cards and Pens
* Paper and Pens
* Ability for audience members to be seated at tables facing each other
* Ability for audience members to move their chairs, but tables are not needed
* Other
* None

**Other Space/Media Needs (optional)**

Please describe any other requirements that you have for space or media that was not covered in the above answer.

**Permissions and Confirmations - Please Read Carefully**

Please read the following section carefully as it includes critical information and relevant CHESC policies that you will be expected to adhere to.

**Speaker Changes (required)**

Please confirm you have reviewed our policy on speaker changes and agree to adhere to this policy by checking this box.

All changes to the proposed speakers listed in your original abstract must be reviewed and approved by CHESC. CHESC reserves the right to cancel a talk based on a change to the speaker list (though we will usually work with the submitters to identify alternate speakers first). A loss of one of the speakers within the session may also result in the canceling of a talk, even if one of the selected speakers can still attend. If you significantly change your topic, scope, or speakers you must seek approval from CHESC.

**Closing and Submission**

Please let us know if you have any other comments or concerns before submitting your nomination. Please note that you must hit "submit" for the proposal to move onto the review committee. If you need to make changes after you hit submit, please contact CHESC Staff, Katie Maynard kmaynard@geog.ucsb.edu and we can release the proposal back to you. This can be done until the submittal deadline. Please also make sure that you have linked all the speaker(s) for your session to this proposal.

**Additional Comments and Clarifications (optional)**

If you have any additional comments for reviewers, please include those here. Leaving this blank is fine.

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**Speakers**

In addition to completing an application, proposers will need to complete a set of questions ***for each speaker***. These can be found below or [at this link](https://chesc.org/wp-content/uploads/CHESC2018_SpeakerQuestions_BP-Awards_V3.docxhttps%3A/chesc.org/wp-content/uploads/CHESC2018_SpeakerQuestions_BP-Awards_V2.docx). Award winners are expected to speak at CHESC, July 9th-12th, 2018.  Presentations will be on either July 10th or July 11th. Up to two people can speak per award.  One of those people **must be from the campus.** All speakers must be listed on the application. The award ceremony will be at lunch on July 10th (11:30am-2:00pm). The speaking timeslot will be separate from the award ceremony. During the award ceremony, your team will be invited on stage to receive your award.

The person who created the award proposal can either enter in speaker information on the “persons” tab or they can simply add the speakers through their email address and once they have done that the speaker can edit the information from their Proposal Space account. **All speakers/co-submitters will need to set up a proposal space account** (<https://proposalspace.com/>). When adding a new speaker from the account that started the proposal draft, make sure that the speaker is on the same page about what email to use with the main proposal drafter. The person inviting the speakers needs to use the same email that was used to set up that individual speaker’s proposal space account. New proposals can be started at: <https://proposalspace.com/calls/d/849>

**Roles:**

If you have people that want to be listed on your proposal but are not speakers, you have three “role” options. Please choose the appropriate role:

* **Speaker:** One or two people who would speak if the proposal is accepted
* **Administrative Support for Applicant:** Anyone who wants to be copied but is not speaking
* **Non-Speaking Team Member:** Someone who will be present but is not speaking. This person will be invited on stage to join the team in receiving the award. You can add non-speaking team members later as well.

The following questions will be asked on the form:

**Name (required)**

Ben Christensen

**Campus/Institution/Company (required)**

Cal Poly, San Luis Obispo

**Department, Division, or Organization within your Campus/Institution/Company (required)**

Climate Change Action Research Group

**Title Line (required)**

For students: consider using your student title of "Undergraduate Student, Major" or "PhD candidate, Department" or if you are representing a student group "President, Recycling Club" or "Intern, Sustainability Office"

Research Lead, Climate Change Action Research Group

**Which best describes you? (required)**

Student

**Post-nominal titles (optional)**

Letters placed after the name of a person to indicate that the individual holds a position, educational degree, accreditation, office, or other honour (Examples: AIA, LEED AP, PhD)

**Office Phone (required)**

505-235-7347

**Cell Phone (Only to be used if there are problems onsite) (optional)**

**Email (required)**

btchrist@calpoly.edu

**Biography (required, 150 word limit)**

Please provide a brief biography. If accepted, this may be posted on the conference website. Biographies should be a minimum of 80 words and a maximum of 150 words.

My name is Ben Christensen and I am a fourth year Environmental Management Major. I was born and raised in the arid forests of Sandia Park, New Mexico and love exploring the natural world. I have determined that the best way I can positively paint my small corner of our future is to voraciously search for a solution to climate change. I have pursued this through research on hydrogen fuel cells at the National Labs, volunteering in SLO, fostering outdoor stewardship as a Poly Escapes Trip Leader, and now with the Green Campus Team. I founded and run the Climate Change Action Research group and am excited to explore population behaviors regarding climate change at Cal Poly, and to be a part of all the ongoing sustainability efforts. In my free time I play as much soccer as I can, backpack, ski, cook, and paint landscapes.

**Project Role (required, 150 word limit)**

Please describe the role this speaker had in implementing the project/research that would be highlighted in this presentation.

 I founded CCARG two years ago and have been serving as the principle researcher and team lead since. I have secured funding for the group, solidified various partnerships, and created different research initiatives. I have been fortunate enough to have substantial support from the honors program and my team members, which has allowed the group to grow in ways that I could not have imagined. I am responsible for macroscopic internal management as well as overall group direction. I coordinate directly with our faculty advisor, and work with the team members on an individual level to foster their research and personal growth. Currently, I am working on succession planning through the identification and investment of promising new leaders to ensure temporal resilience within the group.

**Confirmation of Proposed Speakers (required)**

Please confirm if you/this speaker is committed to speak should the proposal be accepted. If this is not the case, please describe the status of the unconfirmed speaker here.

Yes, the speakers applied plan to attend CHESC 2018 given the opportunity to speak.

**Disclaimer of Commercial Interests (required)**

Does this speaker have any commercial interests or associations related to the material that they are presenting on? If so, please describe that here. Speakers speaking on a product/service of a company they are employed by must disclose that.

No.

**Confirmation of Speaker Registration Fees. Please Read Carefully. (at least one required)**

* Yes, I understand that award winners presenting will be expected to pay a registration fee.

**Permission for Photography (at least one required)**

Do you give permission for photographs to be taken in your session? Photos will be used in future promotion of the conference, on the CHESC website, and by UCSB.

* Yes

**Speaker Content Guidelines (required)**

Please check the box below to confirm your commitment to our speaker content guidelines.

Speakers may neither promote nor denigrate a specific product or proprietary service during a presentation. Logos from campuses, non-profits, and companies may only be used on the first slide of the presentation regardless of whether the speaker represents that group. Institutions can be mentioned as affiliations of the author, but promotional information about those institutions cannot be included. Advertisements cannot be used anywhere in a presentation or in hand-out materials for a talk. Photos used in presentations should not include proprietary services or products. If you need assistance editing out a logo from a photograph, please contact us; we are happy to assist you. We do not accept sales pitches or marketing presentations. All presenters must be directly involved in the project/research being discussed. It is not appropriate for someone from the same program, campus, or department who did not directly work on the project/research to present. All presenters must discuss their work on the project. Representatives of private companies and non-profit organizations may only present if they are co-speaking with a campus. The campus presenter must talk about their work on the project and may not act simply as an endorsement for the company presenter. Government (non-campus) representatives may speak without a campus co-presenter if they are discussing legislation or codes that affect campuses; or resources directed towards campuses such as grants or technical assistance programs. Government representatives must co-speak with a campus on all other presentations. Presenters should not infer that the conference, UC Santa Barbara, CCC, CSU, UC, or the IOUs approve or endorse any product, software, service, or system for any reason. The logos and names of UCSB, CCC, CSU, UC, and the IOUs may not be used without prior and explicit permission from the owner of that logo. The speaker is responsible for confirming that they have the right to use/acquiring the licenses needed for any copyrighted material used in the presentation. We ask speakers to be especially careful of the use of photographs.