



47th IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE (PVSC) High School Photovoltaic Design Competition

Dear Teachers, Advisors, and Students:

On behalf of the 47th IEEE Photovoltaic Specialists Conference (PVSC) Committee, we invite you to join our High School Photovoltaic (PV) Design Competition. The goal of the competition is to spread knowledge of PV by supporting high school teams in a solar design competition. The competition takes place during this school year (2019/2020) and culminates with poster presentations for cash prizes on June 15, 2020, at the Telus Convention Center in Calgary, Alberta, Canada, as part of the PVSC poster competition.

To participate, we ask that you form a team consisting of an adult mentor and between 2 and 8 students, devise a project theme and execution plan, and submit the “project design summary” included at the end of the letter. Once we receive it, we will contact the mentor to establish a plan and schedule. There is no limit on the number of teams from a school, provided each team has a dedicated mentor. The PVSC will support each team with a grant of \$200 to \$500, depending on the number of participants.

Previous knowledge about solar cells is **not** required. Last year, we had teachers ranging from chemistry to history. All that is needed is a desire to learn more about solar energy and to participate in the competition. To see some of our previous competitions, please check out the PVSC high school competition website at: <https://www.ieee-pvsc.org/PVSC47/events-highschool.php> and last year’s competition highlights on <https://www.ieee-pvsc.org/PVSC46/Monday.pdf>. The competition has also been featured in the following news article: <https://asunow.asu.edu/20190717-lighting-way-future-photovoltaics-innovators>.

We structure the competition to mirror how researchers conceive of novel ideas, develop the ideas into specific design objectives, implement the designs, and report the findings. Throughout the competition, we will provide guidance and direction by phone, email, and face-to-face meetings when possible.

All teams are invited to participate in the PVSC poster session, which will include 1,000+ photovoltaics experts attending the collocated PVSC conference, to demonstrate their projects and compete for prizes. It will be an awesome opportunity for the students and teachers to interact with scientists, engineers, and entrepreneurs from all facets of PV. The awards will be announced at the poster session.

You are welcome to email silvana.ayala@nrel.gov and Michelle.E.Jordan@asu.edu with any questions. To confirm your participation, please fill out the attached project summary form. We appreciate your interest in participating this year, and look forward to working with you!

Sincerely,

Silvana Ayala Pelaez, Co-Chair, High School PV Design Competition
Prof. Michelle E. Jordan, Co-Chair, High School PV Design Competition

PVSC COMPETITION PROJECT SHEET

To enter the competition, please fill this information and email to silvana.ayala@nrel.gov and Michelle.E.Jordan@asu.edu.

School name:	
Advisor's name:	
Advisor's email:	
Mailing address:	
Phone number:	
Expected number of students:	
Title of project:	
Two-sentence description:	

47th IEEE Photovoltaic Specialists Conference
Photovoltaic Design Competition
Project Design Summary
(3-page maximum).

1. Executive Summary

Please write a brief description of the project, the results that you expect to observe, and the impact that your results may have on the PV community. This section is expected to be short – a few sentences up to a couple of paragraphs. The goal is to, as few sentences are possible, provide the PVSC High School Committee enough information to that they know what you are proposing and why.

2. Design of the PV System

This is the main part of the summary where you have the chance to describe the project that you wish to engage in. We expect the students to have an active role in the design of the project and the writing of this summary. We encourage liberal use of pictures, graphs, and the like; anything to get the attention of the students and, in turn, to get them motivated to write a good summary and to follow the project through to its completion.

3. Expected Results from the Project

With the system design laid out, this section is where the mentor(s) and students describe the expected results from the project. For example, if the project revolves around the use of solar panels to power a desalination plant, how much power will be needed to operate the plant, how much water can be expected to be produced at full scale, and what is the size to the project that is envisioned?

4. Expected Impact on the Photovoltaic Community

It is in this section that the mentor(s) and students has the opportunity to describe the “so-what?” of their project. How do they expect the incorporation of solar energy to improve the area if interest? Returning to the example of the solar powered desalination plant, how do they see the incorporation of solar to improve the system operation? How will the incorporation of solar energy enable capability otherwise unavailable?

5. Team Members

Please include a few sentences to introduce the teachers and students that make up the team. If they have resumes, it would be great to include them here.