

Press RELEASE

From: reACT ThinkTank, UMD

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U.S. Department of Energy Solar District Cup Collegiate Design Competition

The Solar District Cup Class of 2021 final deliverable has been submitted and accepted. The judges and Solar District Cup organizers are excited to see the solutions Team Maryland has developed over the past several months. The judging panel for each division will review packages before witnessing live team presentations on April 25. The competition teams were assigned one of three “District use” cases. Team Maryland was assigned the district use case of the University of Central Florida.

Class of 2021

The Class of 2021 was supported by the reACT ThinkTank, a group of faculty, students, alumni, and indigenous community members that has grown out of twenty years of competing in the U.S. Department of Energy Solar Decathlons. reACT ThinkTank is jointly sponsored by the School of Architecture, Planning & Preservation, Clark School of Engineering, University Libraries, College of Agriculture & Natural Resources, and the College of Education.

The Class of 2021 Team Maryland Roster:

Name	Role	Field/Discipline	Academic Unit
Favour Nerrise	Team Leader, Student	Computer Engineering	Clark School of Engineering
Jakob Brinkman	Co-Leader, Student	Civil Engineering	Clark School of Engineering
Tali Kirshenboin	Student	Landscape Architecture	College of Agriculture & Natural Resources
Pamela Mountain	Student	Mechanical Engineering	Clark School of Engineering
Cade Stanfield	Student	Chemistry	College of Computer Science, Math & Natural Science
Yasmin Molkara	Student	Business/Finance	Smith School of Business
Jonathan Yee	Student	Computer Engineering	Clark School of Engineering
Joey Moore	Student	Mechanical Engineering	Clark School of Engineering
Bryan Quinn	Lead Advisor	Electrical Engineer	Institute for Research in Electronics & Applied Physics
Patricia Cossard	Advisor	reACT Living Laboratory	University Libraries
Hosam Fathy	Advisor	Mechanical Engineer	Department of Mechanical Engineering
Peter May	Advisor	Environmental Science & Technology	College of Agriculture & Natural Resources
Garth Rockcastle	Advisor	Architecture	School of Architecture, Planning & Presentation

Final Deliverable Package

The Final Deliverable Package includes a complete conceptual design and techno-economic analysis of a proposed interconnected solar PV plus battery electric storage system that maximizes energy offset and

savings over the system's contracted (if PPA or lease) or useful (if cash purchase) lifetime for the division district, given its use case parameters and conditions.

Team Maryland Innovation: Floatovoltaics

Floatovoltaic systems are PV systems that float on bodies of water, making use of space that cannot otherwise be built upon. At UCF there is currently a small floatovoltaic system on the lake to the Northeast of central campus. This system is isolated from the power distribution system of the campus and uses DC power to directly power pumps in the lake to aerate this body of water, which has many environmental benefits. Team Maryland has proposed adding a floatovoltaic system to the larger section of the lake directly south to the existing PV system. UCF students in the Mechanical Engineering Department deployed a floating PV array in 2016 on Pond 2-H. An additional 1.4MW array has been designed that will be used to generate power for campus buildings. Floatovoltaic systems require a floating racking system that is moored in place by use of weighted anchors so that the array orientation does not change due to wind or water conditions. Team Maryland's proposal would massively increase the area of floating PV arrays on Pond 2-H. Additionally, aquatic benefits of shading of the pond would reduce the light penetration that stimulates nuisance algal growth and increases the pond's water temperatures which would benefit aquatic life in the pond.

The proposed floatovoltaics would provide a unique viewshed to the students which would be articulated through interpretive signage of a novel ecotechnology in action. The floatovoltaic arrays utilize open water space in an energy efficient and productive way that does not require the destruction of adjacent and productive forest area. Team Maryland believes that the UCF 2016 pilot, were the first use by a campus in the United States, something the campus should be very proud of. The cooler temperatures from the pond would also provide an anticipated increase in PV efficiency by lowering the temperature of the arrays themselves.

SOLAR DISTRICT CUP CLASS OF 2021 COMPETITION EVENT

For almost an entire academic year, students competing in the U.S. Department of Energy Solar District Cup Collegiate Design Competition Class of 2021 have assumed the role of a solar-plus-storage developer to design and model systems for a campus or urban district. On April 25-26, 2021, student teams will participate in a two-day, three-part event where they'll present their projects to a panel of industry judges, find out the winners in each division, and compete for the title of Project Pitch Champion.

On Sunday, April 25, the Solar District Cup will hold the first part of the Class of 2021 Pitch Championship event. Through live video conference, competing teams will present to a panel of judges in their district use case divisions. Each team has 15 minutes to present, followed by 10 minutes of questions from the judges. After all pitches have concluded, judges will convene to select the third-, second-, and first-place winners in each division.

On Monday, April 26, the third-, second-, and first-place winners in each division will be announced by U.S. Department of Energy leadership. Following this announcement, the three first-place teams will give 8-minute presentations to a public audience, who will vote on their favorite team to become the Project Pitch Champion.

The competition organizers especially invite you to join the Project Pitch Championship at 2 - 3 p.m. EDT on Monday, April 26, where you can help determine the Project Pitch Champion. Register using the links below.

Sunday, April 25

12 – 6 p.m. EDT - Solar District Cup Student Division Presentations

The judges for each division witness a 15-minute presentation by each competing team to inform final scores and determine the winners. Ten minutes is provided for judges to ask questions of each team. The three divisions present in parallel.

The schedule of team presentations and links to register are forthcoming.

Monday, April 26

11– 11:30 a.m. EDT - Solar District Cup Division Winner Announcement

[Attendees register for the Announcement of Solar District Cup Division Winners using this link.](#)

2 – 3 p.m. EDT - Solar District Cup Pitch Championship

Watch the three first-place division teams' presentations and then vote for your favorite to determine the Project Pitch Champion!

[Attendees register for the Solar District Cup Pitch Championship using this link.](#)

The Solar District Cup is designed to inspire students to consider new career opportunities, learn new industry-relevant skills, engage with the professional marketplace, and prepare to lead the next generation of distributed solar energy. As competitors, students will:

- Build experience with innovative renewable energy design
- Develop real-world solutions that shape the future of solar energy
- Engage with industry professionals to forge relationships and connections that aid participating students' transition to the solar energy workforce upon graduation
- Compete to earn national recognition upon winning a Solar District Cup and/or being selected as an industry choice winner.