2023 Teams

#5 University of Florida
#6 University of California Berkeley
#7 Dalhousie University
#11 Northwestern University
#17 Illinois State University
#21 Kennesaw State University
#32 Principia College
#55 Polytechnique Montréal
#87 University of Virginia
#540 Virginia Tech
#608 University of Wisconsin Madison
#614 Ohio State University
#786 Western Michigan University
#828 Appalachian State University

Coming in 2024

- Form a solar car team to compete
- Sponsor, donate, or volunteer

Get involved

INNOVATORS EDUCATIONAL FOUNDATION

Innovators Educational Foundation (IEF), a 501c3 nonprofit, organizes the US collegiate solar car events. IEF is made up of a core group of dedicated volunteers, mostly former competitors, that know first-hand the value of a hands-on, multidisciplinary, innovative project to the educational experience. In addition to experiential learning, these solar car events promote energy efficiency and raise public awareness of the capabilities of solar power.

Innovators Educational Foundation
1028 S Bishop Ave #314
Rolla, MO 65401
ief@americansolarchallenge.org

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FORMULA SUN GRAND PRIX

Topeka, KS . 2023

HEARTLAND MOTORSPORTS PARK

JUNE 27-JULY 2, 2023

americansolarchallenge.org
US COLLEGIATE SOLAR CAR RAYCING

TITLE SPONSOR

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TRACK PARTNER

HEARTLAND MOTORSPORTS PARK

SILVER SPONSORS

BLUE ORIGIN

The MathWorks™

TESLA

BRONZE SPONSORS

ALTAIR

SunCat Solar

SUPPORTERS

Evan Stumpges | Floify | Love Family Affiliated Fund

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Ryan Babaie
Daniel Bohachick
Linda Bozarth
John Broere
Brian Call
Alain Chuzel
Tyler Coffey
Megan Derwich
Bill Elliott
Sue Eudaly
Kila Henry
Byron Hopps
Ryan Hupp
Byron Izenbaard
Ben Kenkel
Cora Kennedy
Todd Krener
Gail Lueck
Steve McMullen
Senait Nuguse
Nafi Osmani
Paul Park
Dale Reid
Adem Rudin
Dan Saulsberry
Evan Stumpges
Sunny Yeung

Jury

Dan Eberle
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Jeff Rogers

ORGANIZED BY

INNOVATORS EDUCATIONAL FOUNDATION

Running on sunshine

SCRUTINEERING JUNE 27-29

The solar cars undergo a series of inspections covering all aspects of the car, including electrical systems, mechanical systems, body and sizing, dynamic testing, and more. Inspectors check that the solar cars are built in alignment with the regulations and have all required safety features. Passing scrutineering is a big accomplishment for the teams and a requirement to participate in the event.

Schedule

TUE JUNE 27	10a-6p Scrutineering
WED JUNE 28	9a-7p Scrutineering
THU JUNE 29	9a-7p Scrutineering 5p Drag Strip Runs
FRI JUNE 30	10a-6p Hot Track 5p-8p Charging
SAT JULY 1	7a-9a Charging 9a-5p Hot Track 5p-8p Charging
SUN JULY 2	7a-9a Charging 9a-5p Hot Track

DRAG STRIP RUNS JUNE 29 at 5pm

New this year, Heartland Motorsports Park will be giving teams that have passed scrutineering the opportunity to run on their infamous ¼ mile drag strip in a friendly, bragging rights competition.

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ELECTREK FORMULA SUN GRAND PRIX JUNE 30-JULY 2

Teams aim to complete as many laps on the 2.5 road course track as possible in the allotted 24 hours of driving time during this 3-day, road-course track event. Teams strategize their pit stops for driver and tire changes, all while carefully monitoring the weather and managing the car's energy from the sun. While the fastest lap will be recognized, FSGP is focused on strategic energy management and maximizing efficiency to complete the most laps over the 3 days.

Inspiring the Future

Promoting educational excellence and engineering creativity, the Electrek Formula Sun Grand Prix (FSGP) is a collegiate student design competition. University teams design and build solar-powered vehicles within a set of regulations. More than just another engineering competition, solar car teams effectively act as a small business, handling their own fundraising, public relations, and logistics as well as putting their unique solar car designs to the test in competition. The Electrek FSGP provides an opportunity to combine STEM, experiential learning, innovative design, and alternative energy, helping prepare today's students to be tomorrow's leaders.

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Formula Sun

Teams

Single-occupant vehicle (SOV)

Multi-occupant vehicle (MOV)

MEET THE SOLAR CAR TEAMS

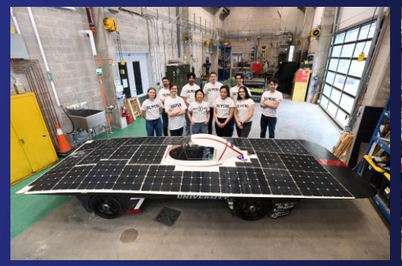
#5 University of Florida
Solar Gators

Sunrider
225kg • 5.00m x 1.00m x 1.50m
960W Mono-Silicon Sunpower Solar Array
20kg 5kWh Lithium Ion Sanyo NCR GA Batteries
1 Mitsuba Motor
4130 Steel Space Frame Chassis
4 Custom Aluminum Wheels • Bridgestone Tires

#6 UC Berkeley
CalSol

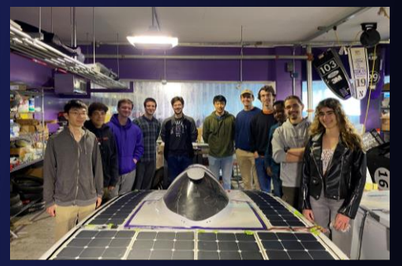
Excalibur
166kg • 4.82m x 1.60m x 1.31m
1010W Mono-Silicon Maxeon-Sunpower Solar Array
20kg 5.3kWh Lithium Ion LG Chem Batteries
2 Mitsuba M1096D-III Motors
Composite Monocoque Chassis
4 Custom Metal Wheels • Bridgestone Tires

#7 Dalhousie University
Dalhousie Solar Car Team



NOVA
200kg • 5.00m x 1.70m x 1.20m
1000W Mono-Silicon Sunpower Solar Array
20kg 5kWh Lithium Ion Sanyo Batteries
1 Mitsuba Motor
Carbon Fiber Composite
4 Custom Aluminum Wheels • Bridgestone Tires

#11 Northwestern University
NUsolar



SC7s
376kg • 4.54m x 1.77m x 1.09m
952W Mono-Silicon Sunpower Solar Array
20kg 5.2kWh Lithium Ion Sanyo Batteries
2 Mitsuba Motors
4130 Space Frame
4 Carbon Fiber Nomura Wheels • Shinko/Pirelli Tires

#17 Illinois State University
Mercury

Mercury 6
220kg • 4.50m x 1.40m x 1.10m
800W Mono-Silicon Sunpower Solar Array
20kg 5.2kWh Lithium Ion Panasonic Batteries
1 Mitsuba Motor
Carbon Fiber Monocoque
4 Carbon Fiber Nomura Wheels • Bridgestone Tires

#21 Kennesaw State University
Solar Vehicle Team

KSR1
246kg • 5.00m x 1.71m x 1.30m
928W Mono-Silicon Maxeon Solar Array
20kg 5kWh Lithium Ion Panasonic Batteries
1 Motenergy Motor
4130 Chromoly Steel Space Frame
3 Wheels (2 Steel, 1 Aluminum) • Dunlop Tires

#32 Principia College
Principia Solar Car

RA XI
200kg • 3.90m x 1.80m x 1.07m
800W Mono-Silicon Sunpower Solar Array
20kg 4.5kWh Lithium Polymer Nomura Co. Batteries
2 Mitsuba Motors
Chromoly Steel Space Frame
4 Carbon Fiber Ghcraft Wheels • Michelin Tires

#55 Polytechnique Montréal
Esteban

Esteban 10
330kg • 4.90m x 1.85m x 1.25m • 2 Seats
1271W Mono-Silicon Sunpower Solar Array
46.6kg 9.2kWh Lithium Ion Batteries
2 Mitsuba M2096D-III Motors
Composite Material Sandwich Panels
4 Carbon Fiber Nomura Wheels • Bridgestone Tires

#87 University of Virginia
Solar Car Team at UVA

Rivanna 2S
300kg • 4.90m x 1.30m x 1.10m
1000W Mono-Silicon Maxeon Solar Array
20kg 5kWh Lithium Ion Panasonic Batteries
1 Mitsuba Motor
Steel Space Frame
4 Aluminum Mitsuba Wheels • Bridgestone Tires

#540 Virginia Tech
SolarCar at Virginia Tech

Sun-Gobbler
254kg • 4.50m x 1.80m x 1.20m
950W Mono-Silicon Sunpower Solar Array
19.9kg 4.7kWh Lithium Ion LG Batteries
1 Aegean Dynamics Motor
4130 Steel Tube Chassis
4 Aluminum Wheels • Bridgestone Tires

#608 Univ of Wisconsin-Madison
Badgerloop

Helios
226kg • 4.95m x 1.02m x 1.25m
945W Mono-Silicon Sunpower Solar Array
35.5kg 4.9kWh LiFePO4 K2 Batteries
1 Mitsuba Motor
Carbon Fiber Sandwich Panels
4 Aluminum Nomura Co. Wheels • Bridgestone Tires

#614 Ohio State University
Buckeye Solar Racing

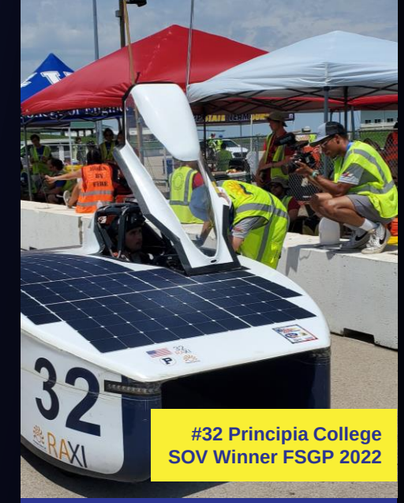
Farasi II
220kg • 4.57m x 1.52m x 1.52m
888W Mono-Silicon Sunpower Solar Array
19.9kg 5.2kWh Lithium Ion LG Batteries
1 Mitsuba Motor
Steel 4130 Tube Frame
4 Custom Aluminum Wheels • Bridgestone Tires

#786 Western Michigan University
Sunseeker

Sunseeker 23
163kg • 4.90m x 1.40m x 1.00m
1000W Mono-Silicon Maxeon Solar Array
20kg 5kWh Lithium Ion Panasonic Batteries
2 Marand Motors
Carbon Fiber Monocoque
3 Carbon Fiber GH Craft Wheels • Michelin Tires

#828 Appalachian State University
Team Sunergy

ROSE
500kg • 4.74m x 2.10m x 1.24m • 2 Seats
1212W Mono-Silicon Sunpower Solar Array
122kg 13.8kWh Lithium Ion Envision Batteries
2 Mitsuba M2096-D3 Motors
Carbon/Kevlar Honeycomb Sandwich Panel
4 Custom Aluminum Wheels • Bridgestone Tires



#32 Principia College
SOV Winner FSGP 2022

FAQ FAQ FAQ

How do solar cars work?

Solar cars use photovoltaic cells to convert sunlight into energy. This energy powers an electric motor to make the car go or can be used to charge batteries to store energy for those not-so-sunny days.

Why do solar cars look so different?

Conventional passenger cars typically use more energy overcoming air resistance, known as aerodynamic drag. Solar cars are designed to minimize the energy lost due to drag, resulting in unique shapes and lightweight designs. Many solar cars include fairings around the wheels to further improve aerodynamics.

How fast do they go?

Event regulations limit the cars to 65 mph. Success in the event is more about energy efficiency than top speed.

What about cloudy days?

Solar cars carry batteries that can be charged using the solar cells on the car. When driving under cloudy skies or needing extra power, the car uses this stored energy. Hence, the solar cars can continue to drive in the clouds and rain, although likely at a slower speed to conserve energy.

#55 Polytechnique Montréal
MOV Winner FSGP 2022

ELECTREK FORMULA SUN GRAND PRIX 2023