americansolarchallenge.org

OMAHA, NEBRASKA – BEND, OREGON | JULY 14-22, 2018 | 1700+ MILES

#2 University of Michigan
#3 University of Kentucky
#4 Massachusetts Institute of Technology
#5 University of Florida
#6 University of California Berkeley (CalSol)
#9 Iowa State University (Team PrISUm)
#15 Western Sydney University
#17 Illinois State University
#22 University of Illinois at Urbana-Champaign
#24 University of Waterloo (Midnight Sun)
#35 University of Minnesota
#42 Missouri S&T
#49 Georgia Institute of Technology
#55 Polytechnique Montréal (Esteban)
#57 Southern Illinois University Edwardsville
#86 New Jersey Institute of Technology
#89 St. Petersburg Polytechnic University
#99 North Carolina State University
#101 École de Technologie Supérieure (Eclipse)
#116 McMaster University
#559 University of Bologna (Onda Solare)
#786 Western Michigan University (Sunseeker)
#828 Appalachian State (Team Sunergy)
#966 Alfaisal University

American Solar Challenge

Innovators Educational Foundation

Innovators Educational Foundation (IEF) is a non-profit 501c3 organization that organizes the 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 education experience. In addition to experiential learning, these solar car events promote energy efficiency and raise public awareness of the capabilities of solar power.

If you are interested in forming a team to participate in future events or providing support to the program as an event partner, sponsor, or volunteer, please contact us!

Innovators Educational Foundation
PO Box 2368, Rolla, MO 65402
ief@americansolarchallenge.org

BLAZING A TRAIL WEST

175TH ANNIVERSARY OF THE OREGON NATIONAL HISTORIC TRAIL

NATIONAL TRAILS SYSTEM 1968 50 YEARS 2018

SCHEDULE AT A GLANCE

JULY 6-9: SCRUTINEERING
Motorsport Park Hastings (Hastings, NE)

JULY 10-12: FORMULA SUN GRAND PRIX
Motorsport Park Hastings (Hastings, NE)

JULY 10: on track 10:00 AM-6:00 PM
JULY 11: on track 9:00 AM-5:00 PM
JULY 12: on track 9:00 AM-5:00 PM

JULY 13: PUBLIC DISPLAY DAY
Lewis & Clark Landing (Omaha, NE)
3:00-7:00 PM Public Display & MOV Practicality Judging

JULY 14-22: AMERICAN SOLAR CHALLENGE

OMAHA, NE • SAT, JULY 14
Start Line at 8:00 AM
Lewis and Clark National Historic Trail Headquarters

GRAND ISLAND, NE • SAT, JULY 14
Checkpoint 11:00 AM – 3:30 PM
Stuhr Museum of the Prairie Pioneer

GERING, NE • SUN-MON, JULY 15-16
Stage Finish July 15, 9:00 AM – 6:00 PM
Legacy of the Plains Museum
Stage Start July 16 at 9:00 AM
Scotts Bluff National Monument

CASPER, WY • MON, JULY 16
Checkpoint 12:30 PM – 6:00 PM
Possible arrivals Tue, July 17, 9:00AM – 10:30AM
National Historic Trails Interpretive Center

LANDER, WY • TUE-WED, JULY 17-18
Stage Finish July 17, 9:00 AM – 6:00 PM
Stage Start July 18 at 9:00 AM
Fremont County Pioneer Museum

FARSON, WY • WED, JULY 18
Checkpoint 10:30 AM – 1:00 PM
Eden Valley Community Center

ARCO, ID • THU, JULY 19
Stage Finish 9:00 AM – 6:00 PM
Butte County High School

CRATERS OF THE MOON • FRI, JULY 20
Stage Start at 9:00 AM
Devil's Orchard Trailhead

MOUNTAIN HOME, ID • FRI, JULY 20
Checkpoint 11:30 AM – 4:00 PM
Walmart

BURNS, OR • SAT-SUN, JULY 21-22
Stage Finish July 21, 8:00 AM – 5:00 PM
Stage Start July 22 at 9:00 AM
Business District at Arrowhead Plaza

BEND, OR • SUN, JULY 22
Finish Line 11:30 AM – 4:00 PM
High Desert Museum

Times are local time. Arrival of solar cars may be impacted due to weather, traffic, and maintenance issues, and energy management decisions.

WELCOME

Promoting educational excellence and engineering creativity, the American Solar Challenge (ASC) and Formula Sun Grand Prix (FSGP) are collegiate student design competitions. Teams from the US, Canada, and around the world design and build solar-powered vehicles within a set of regulations. Once at the event, these vehicles are put through a series of inspections, a process known as scrutineering, prior to being allowed to participate in the FSGP track event to qualify for the ASC road event.

Teams that successfully pass scrutineering and the qualifier will then take on the 1700+ mile journey West from Omaha, NE to Bend, OR. In honor of the 50th anniversary of the National Trails System, the route features portions of the Oregon Trail and other trails as the solar cars exhibit the pioneering spirit.

SCRUTINEERING JULY 6-9

The solar cars undergo a series of inspections covering all aspects of the car, including electrical, mechanical, 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 and required to participate in the track and road events.

FORMULA SUN GRAND PRIX TRACK EVENT JULY 10-12

The Formula Sun Grand Prix is a 3-day road-course track race, where the most laps completed in the allotted 24 hours of drive time wins. With no lunch break, teams strategize their pit stops for driver and tire changes all while carefully monitoring the weather and managing the car's energy. Solar cars (and drivers) that complete a minimum number of laps qualify to participate in the American Solar Challenge.

PUBLIC DISPLAY DAY JULY 13

As a transition between the track and road events, this day includes meetings, training, and other preparations while providing the public another opportunity to come see the solar cars.

This day also includes practicality judging of the multi-occupant vehicles, which is a factor in their final scoring.

AMERICAN SOLAR CHALLENGE ROAD EVENT JULY 14-22

The goal of the American Solar Challenge is to complete the predetermined route in the lowest overall elapsed time. Teams drive during the nominal day from 9am–6pm. Each solar car is escorted by lead and chase vehicles that carry the other team members and equipment for roadside repairs. For two hours in the morning and evening, teams are able to charge their batteries using the car's solar array, angling the array toward the sun for maximum exposure. During these non-driving hours, teams can perform maintenance on the car, check the weather, and determine their strategy for the next day.

ORGANIZED BY

Innovators Educational Foundation

EVENT PARTNER

National Trails System 1968 50 Years 2018

SILVER SPONSOR

The MathWorks™

LOCATION HOSTS

National Trails System 1968 50 Years 2018

Lewis and Clark National Historic Trail Headquarters

Scotts Bluff National Monument

Craters of the Moon

Lander Fremont County Museums

National Historic Trails Center Foundation

Stuhr Museum of the Prairie Pioneer

Eden Valley Community Center

Legacy of the Plains Museum

Harney County Chamber of Commerce

Butte County First Atomic Power

city of Mountain Home

High Desert Museum

MEET THE TEAMS

For many of these teams, the American Solar Challenge (ASC) is a goal they have been working towards for 2 years. Many hours have gone into the design and construction of these solar cars to ready them for competition.

FSGP 2017 Team Photo

NEW IN 2018: 2 CLASSES OF SOLAR VEHICLES

This year's event features 2 classes: the traditional single-occupant vehicles and the new multi-occupant vehicles. The single seaters seek to optimize energy efficiency for one person whereas the multi-occupant vehicles are also concerned about passengers and practicality. While both types of solar vehicles are similar in many ways, some key differences are taken into account in the scoring of the classes for the event.

Single-Occupant Vehicle (SOV)

Multi-Occupant Vehicle (MOV)

Single-Occupant Vehicles	Multi-Occupant Vehicles
• Seats 1 person	• Seats 2 or more people
• Smaller solar array size plus a supplemental array	• Larger solar array size and no supplemental array
• Batteries are limited by weight	• No limit on amount of batteries
• No recharging via external sources	• Recharging via external sources is allowed
• Scoring is based on lowest overall elapsed time for all 5 stages of the event, including any penalties incurred	• Scoring is a combination of energy efficiency score (people-distance, time, and external recharging) and a practicality score

University of Michigan
#2 Novum

L x W x H: 5.00m x 1.00m x 1.00m
Weight: 185kg
Array: 800W Multi-junction Gallium Arsenide
Batteries: 5.0kWh Lithium Ion (30kg)
Motor: MARAND Steel-back
Wheels: 4 Custom 16"
Chassis: Composite monocoque, metal roll cage

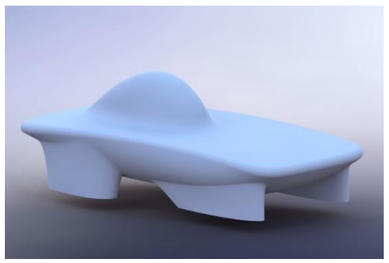
University of Kentucky
#3 Gato del Sol VI

L x W x H: 4.50m x 1.75m x 1.12m
Weight: 240kg
Array: 967W Silicon
Batteries: 4.5kWh Lithium Ion (19.6kg)
Motor: 2 Mitsuba Radial Flux PMSM
Wheels: 4 Custom 7050 Aluminum 16"
Chassis: Fiberglass/Aluminum Honeycomb

MIT
#4 Flux

L x W x H: 4.50m x 1.91m x 1.05m
Weight: 182kg
Array: 950W Silicon
Batteries: 5.0kWh Lithium Ion (19.7kg)
Motor: Mitsuba Hub
Wheels: 4 Composite 17"
Chassis: Semi-monocoque

University of Florida (Solar Gators)
#5 Cielo



L x W x H: 4.10m x 1.80m x 1.36m
Weight: 315kg
Array: 900W Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: 2 Golden Motor BLDC-108
Wheels: 4 Custom Aluminum 16"
Chassis: Aluminum Space Frame

UC–Berkeley (CalSol)
#6 Zephyr

L x W x H: 4.92m x 1.77m x 1.07m
Weight: 200kg
Array: 1200W Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: 2 Mitsuba M 1096-II
Wheels: 4 Carbon Fiber 16"
Chassis: 6061-T6 Aluminum Spaceframe

Iowa State (Team PrISUm)
#9 Penumbra

L x W x H: 4.32m x 1.88m x 1.40m
Weight: 1150kg
Array: 1000W Monocrystalline
Batteries: 15kWh Lithium Ion (57kg)
Motor: 2 Mitsuba 3-Phase AC
Wheels: 4 Machined Aluminum 16"
Chassis: Carbon Fiber Monocoque, Al Roll Cage

Western Sydney University
#15 Unlimited 2.0

L x W x H: 4.60m x 1.55m x 0.90m
Weight: 158kg
Array: 960W Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: Marand Axial Flux Surface Mount
Wheels: 4 Carbon Fiber 16"
Chassis: Monocoque Carbon Fiber

Illinois State University
#17 Mercury 6

L x W x H: 4.35m x 1.35m x 1.07m
Weight: 270kg
Array: 760W Silicon
Batteries: 5.14kWh Lithium ion (20kg)
Motor: Mitsuba BLDC
Wheels: 4 Carbon Fiber 16"
Chassis: Carbon Fiber Composite

University of Illinois Urbana-Champaign
#22 Argo

L x W x H: 4.50m x 1.80m x 1.00m
Weight: 230kg
Array: 650W Silicon
Batteries: 5.1kWh Lithium Ion (19.95kg)
Motor: 2 Mitsuba Brushless DC Direct Drive
Wheels: 4 GH Craft Carbon Fiber
Chassis: Carbon Fiber Panel Semi-Monocoque

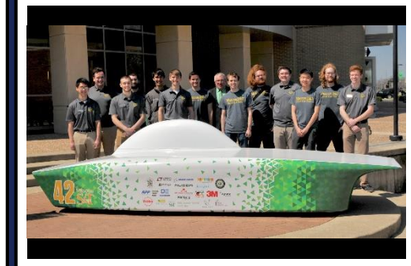
University of Waterloo (Midnight Sun)
#24 MSXII

L x W x H: 4.68m x 2.02m x 1.23m
Weight: 475kg
Array: 1200W Silicon
Batteries: 14kWh Lithium Ion (60kg)
Motor: 2 NGM SCM-150 hub
Wheels: 4 Custom 20"
Chassis: Welded Steel Tube

University of Minnesota
#35 Eos II

L x W x H: 5.00m x 1.90m x 1.30m
Weight: 380kg
Array: 1000W Silicon
Batteries: Not provided
Motor: 2 Custom
Wheels: 4 Custom 16"
Chassis: Carbon Fiber Monocoque

Missouri S&T
#42 Independence



L x W x H: 4.45m x 1.43m x 1.12m
Weight: 175kg
Array: 967W Silicon
Batteries: 5.3kWh Lithium Ion (19.95kg)
Motor: 2 Custom Axial Flux Hub
Wheels: 4 Custom Billet 16"
Chassis: Carbon Fiber Monocoque

Team Profiles continued on page 8

THE TRAIL TO OREGON!

July 13-22, 2018

More than 2,000 miles of trail ruts and traces can still be seen along the Oregon National Historic Trail, reminders of the sacrifices, struggles, and triumphs of early American settlers.

The 2018 American Solar Challenge will follow portions of the Oregon Trail and other national historic trails from Nebraska to Oregon!

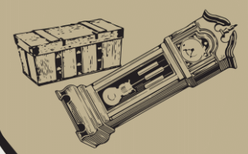
@OregonTrailNPS
@NTIRNPS
@NTIRNPS www.nps.gov/oreg

Though slower than horses and mules, oxen were better suited for pulling fully-loaded wagons.

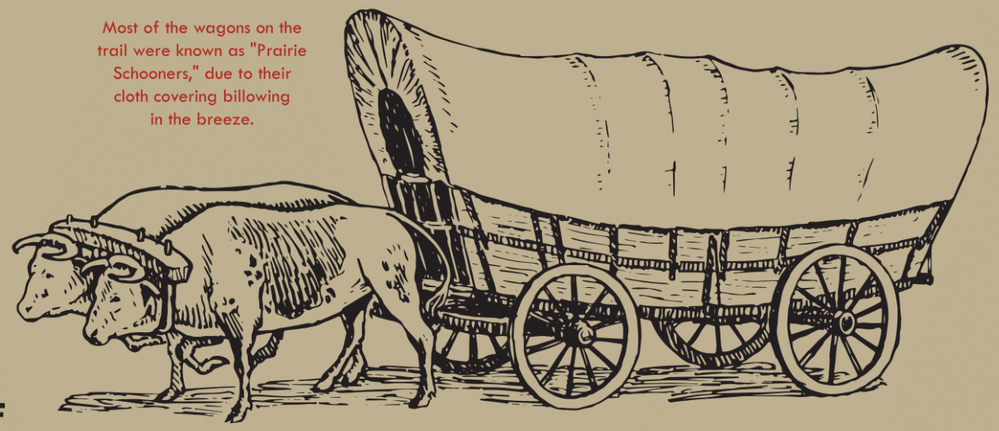
By 1859, over 50,000 people had followed the old trail, carrying Oregon to statehood that year!

In 1978, Congress designated the route as the Oregon National Historic Trail.

Heavy items in the wagons often ended up left along the trail.

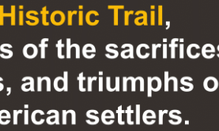


Most of the wagons on the trail were known as "Prairie Schooners," due to their cloth covering billowing in the breeze.



Families encountered an assortment of animals, like the Prairie dog, as they made their way west across the open prairie.

Omaha, Nebraska was one of many Missouri River crossings where emigrants of the mid-1800s "jumped off" onto the overland wagon trails.



START

OREGON OR BUST!

BEND
JULY 22
FINISH

BURNS
JULY 21 - 22

MOUNTAIN HOME
JULY 20

ARCO & CRATERS OF THE MOON
JULY 19 - 20

FARSON
JULY 18

LANDER
JULY 17 - 18

CASPER
JULY 16

GERING
JULY 15 - 16

GRAND ISLAND
JULY 14

OMAHA
JULY 13 - 14

Nebraska's Chimney Rock served as a natural landmark along the Trail.

Bend, OR
High Desert Museum
The Free Emigrant Road turns south at Bend and eventually makes its way through the Cascade Mountains and onward to the Pacific!

Burns, OR
Downtown District
In 1845 Stephen Meek, a wagon guide on the trails, proposed to lead emigrants along a new shortcut across eastern Oregon to The Dalles on the Columbia River.

Mountain Home, ID
Walmart
The Trail across the Snake River Plateau was a hot and dusty trek that exacted a heavy toll on both emigrants and livestock. The Trail passed seven miles northeast of today's Mountain Home, Idaho.

Craters of the Moon
National Monument and Preserve
encompasses over 50,000 acres of volcanic formations and lava flows on the northern rim of the Snake River Plain.

Arco, ID
Butte High School and Bottolfsen Park
The Trail ran to Fort Bridger in the southwest corner of Wyoming, and then swung northwesterly again to Fort Hall on the Snake River in Idaho.

Farson, WY
Eden Valley Community Center
The Trail continued southwesterly from South Pass toward today's Farson, Wyoming on the east bank of the Big Sandy River.

Lander, WY
Fremont County Pioneer Museum
Lander was north of South Pass, a mountain crossing so gentle that most did not even realize they had entered the Pacific watershed — the Oregon Country!

Casper, WY
National Historic Trails Interpretive Center
The trail continues into central Wyoming and present-day Casper before separating from the North Platte and heading southwest.

Gering, NE
Scotts Bluff National Monument
Towering 800 feet above the North Platte River, Scotts Bluff served as a landmark for emigrants on the Oregon, California and Mormon Trails.

Grand Island, NE
Stuhr Museum of the Prairie Pioneer
Wagons moved along both sides of the gritty Platte River, which takes its name from a French word meaning "flat."

Omaha, NE
Lewis and Clark National Historic Trail Headquarters
Located on the west bank of the Missouri River, the Omaha area has always been a good spot for westbound travelers.

American Solar Challenge Stage & Checkpoint Stops
Route of American Solar Challenge
Oregon National Historic Trail

50th Anniversary of the National Trails System

MEET THE TEAMS CONTINUED...

Georgia Institute of Technology
#49 Odyssey

L x W x H: 4.50m x 1.80m x 1.20m
Weight: 250kg
Array: 940W Mono-Silicon
Batteries: 4.7kWh Lithium Ion (20kg)
Motor: 2 Marand Permanent Magnet AC
Wheels: 4 GH Craft Carbon Fiber 14”
Chassis: Aluminum Tubular Space Frame

Polytechnique Montréal
#55 Esteban 9

L x W x H: 3.30m x 1.80m x 1.00m
Weight: 175kg
Array: 1200W Mono-Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: 2 Mitsuba Brushless DC
Wheels: 4 Energizer Solar 21.65”
Chassis: Carbon Fiber Monocoque

Southern Illinois Univ Edwardsville (SIUE)
#57 NOVA

L x W x H: 4.52m x 1.70m x 1.12m
Weight: 306kg
Array: 1342W Silicon
Batteries: 5.1kWh Lithium Ion (19.3kg)
Motor: NGM SCMM150
Wheels: 3 NGM Style Rims 16”
Chassis: 4130 Steel Space Frame

New Jersey Institute of Technology
#86 Eleos

L x W x H: 4.92m x 1.77m x 1.07m
Weight: 238kg
Array: 800W Monocrystalline Silicon
Batteries: 4.8kWh Lithium Ion (19.4kg)
Motor: 2 QS In-hub
Wheels: 4 Aluminum 16”
Chassis: Tubular Chromoly Space Frame

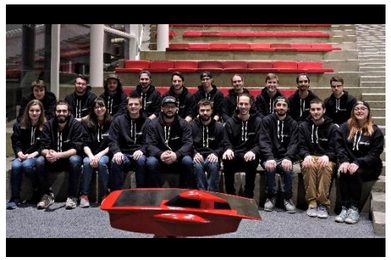
St. Petersburg Polytechnic University
#89 SOL

L x W x H: 4.19m x 191m x 1.25m
Weight: 305kg
Array: 880W Monocrystalline Silicon
Batteries: 5.2kWh INR-LiNiMnCoO2 (19.8kg)
Motor: Emrax PMSM
Wheels: 4 Custom R16 90/80
Chassis: Steel Tube Frame

North Carolina State University
#99

L x W x H: 4.80m x 1.82m x 1.42m
Weight: 1022kg
Array: 1044W Monocrystalline Silicon
Batteries: 36kWh Lithium Titanate (400kg)
Motor: Emrax PMAC
Wheels: 4 BMW i3 Aluminum Alloy 20”
Chassis: Chromoly/Aluminum Space Frame

École de Technologie Supérieure (ETS)
#101 Eclipse X



L x W x H: 3.90m x 1.50m x 1.30m
Weight: 165kg
Array: 1000W Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: Marand/Csiro Axial Flux Hub
Wheels: 4 Custom Aluminum 16”
Chassis: Carbon Fiber Monocoque

McMaster University
#116

Not provided

L x W x H: Not provided
Weight: Not provided
Array: Not provided
Batteries: Not provided
Motor: Not provided
Wheels: Not provided
Chassis: Not provided

University of Bologna (Onda Solare)
#559 Emilia 4

L x W x H: 4.61m x 1.80m x 1.23m
Weight: 300kg
Array: 1100W Monocrystalline Silicon
Batteries: 16kWh Lithium Ion (65kg)
Motor: 2 Hub-Wheel
Wheels: 4 Custom Lenticular 16”
Chassis: Composite Monocoque

Western Michigan University
#786 Farasi

L x W x H: 5.00m x 2.20m x 1.60m
Weight: 316kg
Array: 1300W Monocrystalline Silicon
Batteries: 5.1kWh Lithium Ion (20kg)
Motor: 2 CSIRO
Wheels: 4 City Grip 90/80-16
Chassis: Carbon Fiber Monocoque

Appalachian State (Team Sunergy)
#828 ROSE

L x W x H: 4.74m x 2.10m x 1.24m
Weight: 362kg
Array: 1213W Silicon
Batteries: 11.45kWh Lithium Ion (42.3kg)
Motor: 2 Mitsuba Hub 2096-D3
Wheels: 4 7075-Aluminum 16”
Chassis: Carbon Fiber Composite

Alfaisal University
#966 AREG2018

L x W x H: 4.16m x 2.10m x 1.11m
Weight: 170kg
Array: 840W Monocrystalline Silicon
Batteries: 5kWh Lithium Ion (20kg)
Motor: Motoenergy BLDC
Wheels: 4 Aluminum 6063-T6 90/80-16
Chassis: Aluminum 6063-T6 Tubular Frame

Get Involved as a New Team

If your university is looking to enter a team, contact us. Our website includes information to help you get started.

Follow the event from start to finish

americansolarchallenge.org

A Challenge about more than just Engineering

For these teams, the challenge of the American Solar Challenge begins long before the solar cars hit the road. A solar car team effectively acts as a small business – attracting sponsors, managing public relations, developing and executing a project plan, and, yes, producing a solar car.

In addition to the design and build of the solar car, teams must also plan for the logistical challenges of taking a team of people on the road for the 17 days of events.

While most teams have engineers, you will also find majors in business, marketing, and other fields. The beyond-the-textbook, multi-disciplinary aspect of the solar car experience serves these students well as they prepare for their future careers across a range of industries.

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 can spend more than 85% of their energy overcoming air resistance, known as aerodynamic drag. Solar cars are designed to minimize the energy lost due to drag, resulting in some unique shapes and designs.

Is the first team across the line the winner?

Not necessarily. The winner of the single-occupant vehicle class is determined based on the total overall lowest elapsed time across all stages of the event. For the multi-occupant vehicle class, additional considerations of energy efficiency and practicality factor into the overall score.

Do the cars have air conditioning?

No. Though teams are required to provide driver ventilation, these vehicles are designed to maximize energy efficiency. Air conditioning, power windows, and other creature comforts would only consume electricity without improving the car's performance.

How fast can the solar cars go?

Teams must obey posted speed limits, and regulations limit the cars to 65 mph for the event. During testing, some solar cars have been clocked at over 100 mph.

Can I buy a solar car?

These solar cars are built specifically for competition. However, there are a number of electric, hybrid, and alternative fuel vehicles on the market and in use today.

What about cloudy days?

Solar cars carry batteries that can be charged using the solar cells. When facing clouds 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.

A TYPICAL DAY ON THE ROAD

7:00 AM	Battery release and morning charging
9:00 AM	Start with teams released in 1-minute intervals
The Next 9 Hours…	Drive. As needed, stop to charge, fix a flat, or change drivers. There is no lunch break. Upon arrival at a Checkpoint (designated 45-minute stops), the team jumps out of the support vehicles and points the solar array towards the sun. Drivers of support vehicles go off to find the nearest fuel station. Observers are swapped, route updates are given, and the public gathers around to see the cars. After 45 minutes, the solar car can resume driving.
6:00 PM	The driving day ends and evening charging time begins. Teams are given a 45-minute grace period to find a safe place to stop for the night.
8:00 PM	Battery impound followed by time to work on the solar car (minus batteries), find lodging, check the weather forecast, and get ready for the next day.
The Next Day…	Much the same schedule, except that the solar cars reach an overnight stage stop where they will spend the night and depart on the next stage of the route the following morning.

IN APPRECIATION OF OUR

VOLUNTEERS

These events would not be possible without the time and dedication of our volunteers before, during, and after the event!

EVENT STAFF & INSPECTORS

From inspectors to stage/checkpoint crews to our route advance team and timing, the officials perform a variety of roles during the event. Many are also involved in the preparations prior to the event: reviewing the technical design reports submitted by the teams, developing the route, and coordinating all of the logistics to make the event happen.

John Broere
Dan Bohachick
Linda Bozarth
Brian Call
Mike Calvelage
Alec Carpenter
Alain Chuzel
Tyler Coffey
Steve Day
Megan Derwich
Dan Eberle
Bill Elliott
Sue Eudaly
Kila Henry
Ryan Hupp
Byron Izenbaard
Wade Johanns
Joe Lambert
Gail Lueck
Marie McMullen
Steve McMullen
Bernie Neidert
Paul Park
Dale Reid
Dick Roberto
Adem Rudin
Dan Saulsberry
Johnnea Saulsberry
Jordyn Saulsberry
Stephanie Saulsberry
Evan Stumpges
Greg Thompson

OBSERVERS

The Observers spend a week on the road traveling with the teams. Riding in the chase vehicle, their role is to monitor the solar car's progress, impound the batteries at night, and release them back to the teams in the morning. Observers get to experience first-hand the ingenuity and hospitality of the solar cars teams.

Joshua Agby
Spencer Berglund
Rita Crocker
Hannah Eberle
Chloe Gibbons
Javier González Torres
Kila Henry
Bill Lynch
Ethan Reece
Allen Rues
Bill Stilwell
Donald Sutcliffe
Johannes Tax
Louise Werner
John Wyeth

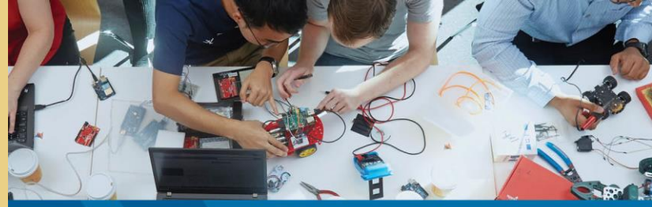
PRACTICALITY JUDGES

The judges score the multi-occupant vehicles on practicality elements as part of determining their overall score for the event.

Pete Augenbergs
Scott McBroom
Goro Tamai
Dorian West

ADDITIONAL THANKS

Special thanks to Maria Xie and Paul Hirtz who assisted with pre-event preparations but were unable to attend the event. Also, thanks to Chris Selwood and Nabih Bedewi for serving on the jury for the event.



When is the next event?

The Formula Sun Grand Prix is held annually and the American Solar Challenge is held every two years. Planning for future events is currently underway. Please follow us on Facebook and check our website for future announcements!

How can I get involved?

- **Sponsor the event with your generous donation**
- **Participate as part of a university team**
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Contact us at ascinfo@americansolarchallenge.org