



2019 EVENT INFORMATION

Australian-International Model Solar Challenge

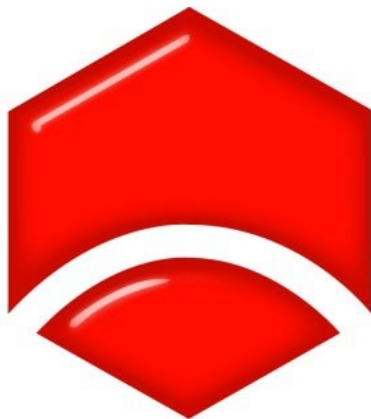
Saturday 30th November & Sunday 1st December, 2019
University of Tasmania, Sandy Bay, Tasmania

www.modelsolarchallenge.com.au

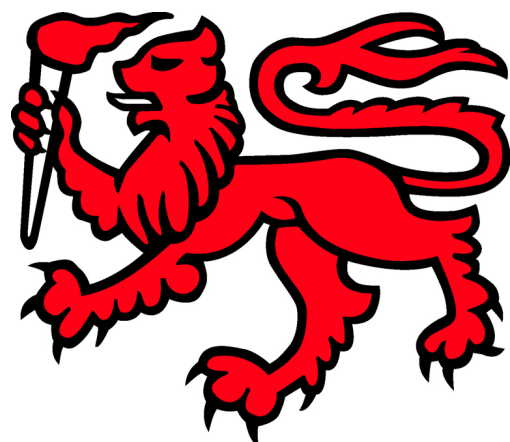
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Opening Message to Teams

Dear Model Solar Car/Boat Coordinators & Competitors,

Congratulations on your selection to compete at the 2019 Australian-International Model Solar Challenge in Tasmania.

This document has been put together to provide you with some information about this year's event and assist you with your planning. Please contact the AIMSC if you'd like any further questions answered, either through the website or at the contact information given here on page 6.

As a promoter of solar technology and other environmentally friendly practices, organisers of this year's event have decided to keep paper wastage to a minimum. Race draws, results and other information will be posted on a central noticeboard at the event. Individualised participation and award certificates are to be sent out to teams in electronic form following the event. Only car/boat stickers will be handed out to each team after being accepted through scrutineering.

Please remember that these are the national finals and that most teams have progressed here as a top entry from their state competition. Students at this level are expected to have enough experience and understanding to be self-sufficient throughout the competition. Teachers and other team mentors may provide some support or guidance but cars/boats must only be handled and worked on by the students. To ensure that the work is that of the students, members of the AIMSC may hold interviews with selected teams at any stage throughout the event.

Bring along your wet weather gear as well as something warm, hats, sunscreen, etc. Every effort will be made to hold the event under most weather conditions but if there is serious doubt, and you think the event may be cancelled, please check the AIMSC website and/or Facebook pages. We have not seen an event cancellation in the last 28 years of competition.

We wish you all the best of luck in your preparations and look forward to seeing everyone at this year's event.

Marc Iseli

Tasmanian & Australian-International Model Solar Vehicle Challenges

Date & Venue

The 2019 Australian-International Model Solar Challenge is being held on **Saturday November 30th & Sunday December 1st** at the **University of Tasmania Rugby Ground**, Grace St, Sandy Bay, Tasmania. Cars will race on both days, boats **only** on the Sunday.

The event will take place on the Sandy Bay Rd end of the ground and parking will be available in the Grace St Car Park or along surrounding streets. Please see the map below for a view of the event location and surrounds.



Track/Pool Type, Setup & Race Format

The car competition will be held on a standard 100m dual-lane figure-8 track. A smaller single-lane circular track may also be available alongside for testing. These will be set up from approximately midday on Friday 29th November and teams are welcome to test their cars during the afternoon under the supervision and direction of AIMSC personnel.

The boat competition will be a run in a typical pool arrangement, with either 2 or 3 lanes, and set up on either Friday 29th or Saturday 30th November.

Both events will have teams compete in a series of round robin races against a range of different opponents. Performance across these earlier heats is then taken into account for knockout finals participation, where the finals draw is arranged in such a way that sees the strongest cars/boats avoid one another until later rounds and finals.

Provided the event stays on schedule, all knockout rounds will be run in a best of 3 race format. This gives all teams a second chance to progress and not instant elimination should a crash or some other issue arise.

In order to maintain an efficient flow of races, cars/boats will be called to the starting area 2-3 races ahead of time. Teams will have several minutes downtime between each race for car modifications and/or repairs.

Team Registration & Media Release Forms

Teams must fill out and submit an event registration form by Friday November 22nd at the very latest. All team members must also sign a media release form. This allows participants to be photographed or filmed by the AIMSC, media or any other individuals at the competition. Both these forms should have been sent out to you alongside this document. Please return these to your state coordinator as soon as possible.

Flights, Transport, Accommodation and Meals

Teams will need to arrange their own flights and transportation to and from the event plus meals and accommodation for the duration of their stay.

Car hire, Taxis and SkyBus are available from the Hobart Airport. SkyBus only operate between the airport and Hobart CBD which is a few km's away from the event itself. Metro Tasmania runs a regular bus service between Franklin Square in the CBD and the University of Tasmania in Sandy Bay. Please see their website for details on timetables, routes and fares. Routes passing by the Uni along Sandy Bay Rd have a stop just meters away from the event. Other routes only stopping along Regent St/Churchill Ave will still get you to the Uni but drop you off further up on campus.

For those interested, short stay UTAS accommodation is available 5-10 minutes walk up from the event on College Rd. Details and costs are available at the following link:

www.utas.edu.au/student-living/short-stay

This is a bit of an uphill trek and may be a struggle if having to carry solar car/boat boxes, toolboxes, etc. Teams wishing to stay here and not hire their own vehicle are welcome to make arrangements with the AIMSC to assist with the transport of such larger, heavier items to and from the event.

Pepperz Café, Bar and Restaurant is located in this accommodation complex and offers lunch and dinner options 7 days. Popular restaurants and fast food outlets can otherwise be found in Sandy Bay or nearby on the Hobart Waterfront/Salamanca.

Coles and Woolworths are within 5 minutes walk of the event along Sandy Bay Rd.

Lunch

Provided the event remains on schedule, a lunch break has been put in place on both days of competition. This will give participants an opportunity to have something to eat and drink if they haven't already. Lunch may be available for purchase from a BBQ/sausage sizzle on one or both days and registered teams will be notified of this a little closer to the event. The car track/boat pool will be open to teams for testing during this period under the supervision of the AIMSC.

Work Space and Tools

Several marquees will be set up adjacent to the car track and boat pool. These will offer teams shelter to work on their cars/boats and a space for the AIMSC to carry out scrutineering. All teams will be provided with their own table space to make adjustments or repairs to their vehicles during the event.

Teams must supply their own basic hand tools and any other special equipment. To help save teams the hassle of having to bring along their own power tools, the AIMSC will provide a number of these in a designated repair station for students to share and use. This space will include several grinders, drills, hot glue guns and soldering irons.

Mains power will be in short supply so it's recommended that any other power tools teams bring are battery powered.

Awards

Awards will be presented to race placegetters and discretionary category winners at the conclusion of the event on Sunday. Major awards go to the winners of the overall Australian-International Model Solar Car & Boat Challenges and top 4 placegetters in each division. A number of discretionary awards including Best Engineered car/boat, Video Excellence, Top Novice Entry, etc. will also be presented.

Given that finals are conducted in a knockout format, not all teams will race through to the very end on Sunday afternoon. Please make an effort to remain at the event and encourage your fellow competitors, check out some of the other cars/boats, ideas, etc.

Only some awards are based purely on race results. Other winners are selected based on different criteria and so all teams should be in attendance at the presentation ceremony.

Event Protocol & Rules

No responsibility will be taken by the AIMSC or University of Tasmania for the loss or damage of any personal items, model solar vehicles, tools or equipment during the competition.

Keeping in the spirit of the event, cars and boats must only be worked on and handled by the students. Supervisors/Teachers/Parents/Adults may not assist students with any racing, vehicle repair or modification unless cleared to do so by the AIMSC under special circumstances.

Behaviour

- Competitors are not to enter competition areas unless they are racing (race has been called) or they have been invited by officials to test their vehicles. Mentors and other supervisors are not to enter competition areas.
- Competitors are to enter/exit competition areas at the designated points.
- The car track is to be crossed at footprint marked points only. **NO** jumping the track, pool or competition fences.
- Competitors are not to enter the workspace of other teams, and not to encroach on their space unless expressly invited to do so. Teams are also not to take up an unreasonable amount of space.
- Supervisors may stay with their competitors for the express purpose of supervising students **ONLY**. Supervisors may not interfere or assist with any racing, construction, repair or modification of vehicles.
- The competition areas, grounds and facilities must be left in a clean, rubbish free and tidy state at the end of each competition day. Several bins will be available around the event site to dispose of rubbish.

Equipment

- All equipment should be labelled clearly identifying your school and stored in an appropriate tub or toolbox.
- Teams are encouraged to assist one another and share where possible. Having said this, please do not interfere with or use another team's equipment without their express permission.
- AIMSC organisers and the University of Tasmania cannot take responsibility for any lost or damaged equipment.

Contact Information

If you have any queries about the event please contact the following people:

Tas Coordinator:	Marc Iseli	miseli@utas.edu.au
AIMSC Chair:	Michael Richards	chair@modelsolarchallenge.com.au

Student Designed Car Schedule

Saturday 30th November

Time	Activity
08:30 – 10:15	Team sign-in and scrutineering
08:30 – 10:30	Track open for teams to practice
10:30 – 10:40	AIMSC welcome and car team briefing
10:45 – 12:30	Session 1 of round robin racing
12:30 – 13:15	Lunch Break. Track open for teams to practice
13:15 – 15:30	Session 2 of round robin racing

Sunday 1st December

Time	Activity
08:30 – 10:00	Team sign-in and scrutineering
08:30 – 10:00	Track open for teams to practice
10:15 – 10:30	AIMSC event welcome and team briefing (cars & boats combined)
10:30 – 12:00	Session 3 of round robin racing
12:00 – 12:45	Lunch Break. Track open for teams to practice
12:45 – 14:45	Knockout racing
14:30 – 14:45	Car Finals
14:45 – 15:00	Boat Finals
15:10 – 15:30	AIMSC Awards Ceremony

Notes:

- This timetable is an approximate guide and may vary due to weather or other circumstances. Every effort will however be made to stick by the day start and end times.
- Each session of round robin racing will consist of several races for each car. Please listen carefully to announcements and promptly head to the starting area when called upon. A smoother, more efficient flow of races means more races for everyone!
- The track will be open for practice during scrutineering but ONLY to cars that have already passed through scrutineering and received a number sticker. The sooner teams get their car checked out the sooner they'll be able to get testing.
- Students must be supervised by their team mentor or an accompanying adult at ALL times.

Model Solar Boat Schedule

Sunday 1st December

Time	Activity
08:30 – 10:00	Team sign-in and scrutineering
08:30 – 10:00	Pool open for teams to practice
10:15 – 10:30	AIMSC event welcome and team briefing (cars & boats combined)
10:30 – 12:30	Round robin racing
12:30 – 13:30	Lunch Break. Pool open for teams to practice
13:30 – 14:30	Knockout racing
14:30 – 14:45	Car Finals
14:45 – 15:00	Boat Finals
15:10 – 15:30	AIMSC Awards Ceremony

Notes:

- This timetable is an approximate guide and may vary due to weather or other circumstances. Every effort will however be made to stick by the day start and end times.
- Boats teams may be required to attend an interview at the discretion of the AIMSC. All teams should be prepared for this.
- The boat pool will be open for testing during breaks and scrutineering at the discretion and availability of event organisers.
- Students must be supervised by their team mentor or an accompanying adult at ALL times.

Model Solar Car Competition - Additional Information

Car teams must sign in and go through scrutineering at the start of each day. Cars will not be allowed to practice on the track until they have passed scrutineering.

Teams will be allocated solar panels when they are called to the marshalling area, 1-2 races prior to their race. It's important that teams listen to the race caller and marshal as soon as they are called.

Racing

- Car racing this year will be held on a two-lane figure-8 track.
- The race will commence when the gate is opened by the starting official. The winner shall be the car that first crosses the finish line.
- In the event that neither car finishes the race in full, the car that has travelled the furthest distance shall be determined the winner.
- All this must be achieved without interfering with the opposing car in any way, shape or form, and any actions that affect the other team will result in the team at fault receiving a penalty at the discretion of the Organising Committee.
- Any car that comes off the track at any point will lose that race. In the case where both cars come off the track, the car which has travelled furthest will be awarded the win.
- Teams are to listen to race officials for starting directions, and not remove cars from the track until directed to do so.
- The first three sessions of racing will consist of as many round robin races as possible to allow for the ranking of teams. The All cars will compete in the knock out competition.

Car Checklist

- Read the 2019 AIMSC Student Designed Car Regulations
- Fill out and return your Registration and Media Release forms to your state coordinator as soon as possible
- Submit your team video by either 1) emailing the AIMSC a file-sharing link prior to the event or 2) in person via USB on SATURDAY at scrutineering
- Remember to bring your own banana connectors for connection with the solar panel
- Remember to bring your cargo (tennis ball)
- Make sure your car complies with the regulations
 - Car must fit in a box, 500mm long, 180mm high and 320mm wide
 - Car must stay within 190mm of the centre of the guide rail at all times
 - Car must have a clearly labelled ON/OFF switch
 - Each wheel must be at least 1mm wide or have a radius of 0.6mm on the running surface
 - Car must have space for an egg driver (see section 8.10)
 - Car must carry cargo of a standard, undeformed tennis ball
 - Car must have two rigid, flat side panels on of each side of the car, that will fit a sticker 150mm long x 80mm high

Model Solar Boat Competition - Additional Information

Boats must register and go through scrutineering at the start of the day. When you present at scrutineering you will be given your boat flags, they must be attached to your rear guide before you will be permitted to practice in the pool, boat name & number should be clearly visible from both sides of the boat.

Boat teams need to familiarize themselves with the round robin race schedule when it is posted and be prepared to race in anticipation of their races being called. Teams should be marshalling near the pool two races in advance.

The boat knockout draw will be determined during the lunch break, and the draw will be posted prior to knockout races commencing.

General Boats Checklist

- Read the 2019 AIMSC Boat Regulations
- Fill out and return your Registration and Media Release forms to your state coordinator as soon as possible
- Submit your team video by either 1) emailing the AIMSC a file-sharing link prior to the event or 2) in person via USB on SUNDAY at scrutineering
- Ensure your boat conforms to all regulations
- Make sure your boat is in “ready to race” form when you arrive at the event
- Maximum boat dimensions: 550mm long, 300mm wide
- Solar cells must be silicon with an active area of less than 350 sq cm. Teams must be able to prove this area and show working out if your cells are not a simple shape.
- Boat must have two guides to go around the guide wire that will be 300mm \pm 25mm above the surface of the water
- Boats must carry one captain & one crew member, each figure must be minimum 55mm high and 20mm wide
- Captain and crew member must be vertical in boat with minimum 40mm above deck in order for them to “see” where the boat is going
- Boats from the same school or group must have hulls that are deemed non-identical by the AIMSC Committee

Junior Boats Additional Checklist

- Make sure you meet all the points on the general boats checklist
- Boat must only have 1 motor of retail value no more than AUD \$10
- Only hulls made from either recycled packaging (such as plastic drink bottles or cans etc.), polystyrene foam, cardboard or balsa wood (appropriately waterproofed) may be used. Moulded hulls, e.g. vacuum formed plastic and fibreglass hulls are not allowed in this division.

Advanced Boats Additional Checklist

- Make sure you meet all the points on the general boats checklist
- Boat must carry a cargo of a standard, undeformed tennis ball

Event Summary

Participants	Open to Primary and Secondary school-aged students who have been invited to compete in the 2019 AIMSC
Media Release Forms & Team Registration	All teams attending the 2019 AIMSC must complete and return registration and media release forms to their state coordinator by no later than Friday 22 nd November.
Challenge Divisions	Model Solar Car Challenge Model Solar Boat Challenge
Location	University of Tasmania Rugby Ground, Sandy Bay, Tasmania
Dates	Student Designed Cars: Saturday 30 th & Sunday 1 st December 2019 Model Solar Boat Challenge: Sunday 1 st December 2019
Times	8:30am – 3:30pm Saturday, 8:30am – 3:30pm Sunday
Event Entry & Sign in	All teams are to present their vehicles for scrutineering and sign in with the AIMSC.
Scrutineering	All teams must attend scrutineering as early as possible each day they are competing.
Videos	All car/boat teams competing in AIMSC are required to submit a video as per the 2019 regulations. Videos may be provided to the committee via a file-sharing link prior to the event, or submitted in person at the start of the event on USB. Teams who do not submit videos will not be eligible for awards.
Race Format	Teams will compete in a series of round robin rounds to rank vehicles for finals. The ranking will be used to determine each challenge knock out draw. Knock out races will run for both competitions on Sunday afternoon.
Awards Ceremony	The event awards ceremony will be held at the conclusion of all racing from approximately 3:00 – 3:30pm on the Sunday.
Parking & Public Transport	Visit the Metro Tasmania website for information on bus routes, fares and timetables from the CBD to the event in Sandy Bay. There's a stop just meters from the event on Sandy Bay Rd. Car parking is available at the event in the Grace St car park or on surrounding streets.
Accommodation	Teams are to make their own accommodation arrangements. One nearby option is the UTAS short stay rooms and apartments just up from the uni on College Rd.
Meals	A BBQ lunch may be available for purchase at the event. Competitors will otherwise need to bring their own food and drink.
Student Workspace and Tools	Teams are to set up on tables in event marquees adjacent to the track and pool. Teams must supply their own basic hand tools and any other special power tools & equipment. The AIMSC will provide a number of power tools at a designated repair station. Mains power will be in short supply so battery powered tools are advised if possible.