

2018 WITT SCIENCE AND TECHNOLOGY FAIR

SPECIAL CATEGORY: ROBOT SUMO CHALLENGE

This entry involves a scratch-built robot, the purchase of a kit to assemble, or the purchase of a ready-made pre-assembled robot as illustrated on the right.



Sumo-bot wrestling requires robots to push or flip each other out of a circular ring (dohyo). A robot that is flipped & immobilized or pushed outside of the dohyo loses, the other robot wins a yuko point. The first to gain two yuko points wins the match.

Entrants will battle the robots on the day of the fair, and the robots with the best performance will win monetary prizes.

There are two classes based on size; MiniBots and MegaBots

- The sumo ring will be published on the Focus Consultancy website www.Focus-consultancy.co.nz
You may use this for practice.
- Robots must be fully built and tested before the competition.
- Robots may be remote controlled (r/c) OR autonomous (self-contained, **no** remote controls).
- The robot will start a battle when a button on its body is pressed to begin movement after a 5 second delay.
- The robot shall not leave any part of its body behind while in the ring.
- The robot shall not jump over, fly over, climb, scratch, cut, burn, mark, damage, or destroy other robots.
- MiniBots: shall not be larger, either in length or in width, than 10 centimetres. Mass (with batteries) 500 grams maximum.
- MegaBots: shall not be larger, either in length or in width, than 20 centimetres. Mass (with batteries) 3 kg. maximum.
- There are no restrictions on the height of a MiniBot or MegaBot.

Sumo procedures and rules

1. Register at the desk in the La Mer Lounge and collect the ID sticker. Stick it on your robot.
2. Show your robot to the registration person. Robots must be in working order.
3. Find a seat and be seated.
4. R/c robots battle other r/c robots; autonomous robots battle other autonomous robots
5. The number of robots placed in a ring will be determined on the day
6. The number of elimination matches will be determined on the day.
7. Matches are 3 minutes; 1 minute per round
8. Each participant will be guaranteed ONE match. Other elimination matches will depend on the number of entries on the day.
9. The robots with the best performance will win monetary prizes.



NOTE: Please adhere to safety precautions.

- Robots must have enough power and stamina to compete for potentially 12 to 36 minutes throughout the tournament. Please consider battery accessibility and robot design.
- During a match no changes in programming or construction of the robot are allowed.
- A robot may not in any way deform the dohyo. Robots are not allowed to use any flying components or projectiles. Robots may not electromagnetically interfere with the other robot or its sensors. Overt attempts to damage the opponent's robot, over and above the expected ramming and pushing, are not allowed.
- The Referees and/or Judges will disqualify any robot whose strategy or operation is considered too dangerous.
- Referees/Judges decisions are final and no correspondence will be entered into.