

teameg

July 10, 2025

agenda

Edit your name to "**Name | Team Name**" E.g., Laverne | University of RoboNation

(REC

EVENT DETAILS

Overview of the event, including schedule, hotel, testing, and shipping.

TASKS & SCORING

Breakdown of the tasks and scoring for the autonomy challenge.







MATHWORKS SIMULATION AWARD

Introduction

The MathWorks Simulation Award recognizes teams demonstrating innovative and effective use of MATLAB and Simulink in designing their AUV's for the RoboSub competition.

Award Prize and Recognition

- 1st Place \$1000 (and a featured post with MathWorks Student Lounge)
- 2nd Place \$750
- 3rd Place \$250

Deliverable Requirements

- 5-minute video showcasing how MATLAB or Simulink was used to solve a problem faced.
- Team introduction high level software and strategy overview
- Explain the problem faced and the team's solution using MathWorks tools
- Demonstrate solution(supported with plots, metrics, videos, etc)
- Reflection and feedback on the tools

Contact Abhishek Shankar through email (abshanka@mathworks.com) or Discord for any questions!





MATHWORKS mini SERIES

your own filter.

APRIL 15 @ 07:00PM EDT

MAY 6 @ 07:00PM EDT

@ 07:00PM EDT

JUNE 10

Design and Deploy your State Machines with Stateflow

Filter Sensor Noise with MATLAB

Learn how to stream sensor data to

MATLAB, analyze the noise, and design

Learn how to use Stateflow to design your state machine and deploy them to a target hardware as an executable or as a ROS node.

Determine Direction of Arrival of an Acoustic Beacon Learn how to use a towed passive sonar

array to detect and estimate the direction of arrival of an acoustic beacon.

SAVE THE YOUTUBE



Please contact humans@robonation.org with any questions 📣 MathWorks



cohonation

robosub

competition details

featuring the 2024 RoboSub Teams





Subject to change

schedule





presentations & assessments prepare & practice

Design Strategy Presentation

Prepare a presentation with a concise description of your team's strategic vision, and how the vehicle design compliments your goals.

Time: 10 min.

System Assessment

Prepare your AUV to be inspected by judges to assess technical design, technical innovation, and craftsmanship of the design.

Time: 15 min.

TIP: Define your team's competition strategy and how that influenced your design choices, testing, and overall approach.



(NEW!) TEAM PHOTOS: Official team photos will be taken Monday, after Team Check-in before Orientation. Alternatively, send us your own team photo and we'll Sub-ify it!



on-site reminders



venue, accommodations, shipping





on-site in case of emergency





venue Woollett Aquatics Center

Overview Site Map

- 1 Competition Pool
- 2 Team Pit Area
- 3 Presentations / Staff Office
- 4 Staff Lounge
- 5 Tech Talks
- 6 Award's Ceremony / Party
- 7 Staff Meals / DV Lounge
- 8 Loading Zone
- 9 Staff/ADA Parking
- 10 Team Parking
- 11 Team Orientation / Networking Event



Subject to change

venue layout





team village





- 10' x 10' working space
- 2 tables / 7 chairs
- 1 electrical outlet
- Wireless Internet
- Local Data Sharing Server



Team Village Hours: 7:00 am - 6:00 pm (Not Open on Monday)

overnight pool testing

Event Hotel: Hilton Irvine/Orange County Airport

- Available Dates: August 12-16, 10 pm 2 a.m.
- Available to all teams, whether staying at hotel or not
- Parking Fee: \$20.00+ tax/ night
- Observe pool rules; be courteous of other other hotel guests







overnight pool testing pool rules

- 1. Team members only allowed in the pool after hours (10pm 2am).
- 2. Pool use for testing of AUVs only.
- 3. Students in the water only while assisting boats.
- 4. No food, drinks or alcohol allowed in pool area.
- 5. No running or loud noise.
- 6.No glass or repair of vehicles allowed in the pool area. Take vehicles back to the room for major repairs.
- 7. Clear your area before you leave. Tools, electronic devices, or other components will be placed in lost and found.

ADVERSE WEATHER CONDITIONS:

Pool will close immediately at the first sight of lightning. Pool will re-open one hour after lightning has ceased.







Deadline: July 16, 2025 (or when the block is full)

Event Hotel: Hilton Irvine/Orange County Airport

- Rate: \$182.93+ tax / night
- Available Dates: August 8-20
- Booking Deadline: July 16, 2025
- Booking Link: <u>robosub.org/2025#lodging</u>
- Parking Fee: \$20.00+ tax/ night
- Overnight Pool Practice: 10:00 pm 2:00 am



Alternative Options

- Short Term Rental Homes/Condos Many teams reserve a short-term rental in the area. Several cities in Orange County have implemented bans or strict regulations on short-term rentals due to recent fires.
- Recommended areas for your stay can be found on Discord.



shipping FINALIZE OUTBOUND SHIPPING NOW!

- Equipment may be shipped to the event hotel (Hilton Irvine/Orange County Airport).
- IMPORTANT DATES
 - Shipment Arrival August 4 (no earlier)
 - Shipment Pickup August 11
 - Outbound Shipping August 18 (no later than)
- Shipping Guidelines in Team Handbook
- Outbound shipping Ensure that outbound shipping is arranged before you get onsite!
- Batteries are exceptionally difficult to ship.

FROM: School/Team Name	
Address	
City, State, Zip	
Country	



Hilton Irvine/Orange County Airport Attn: RoboSub / School Name – Guest Name 18800 MacArthur Blvd. Irvine, CA, USA 92612

On-site Team POC Name:

Phone:

example of inbound shipping label

safety first!

WEATHER IN AUGUST

Irvine is expected to have highs in the mid-80s and lows in mid-60s Fahrenheit, while we are there. RoboNation closely monitors the weather and will promptly notify participants of any developments that may impact safe operations and the schedule.



KNOW THE SIGNS HEAT EXHAUSTION

- Headache, nausea
- Heavy sweating
- Dizziness, fainting
- Muscle cramps
- Goosebumps

HEAT STROKE

- Confusion, disorientation
- Hot skin (no sweating)
- Rapid, strong pulse
- Loss of consciousness
- Body temp ≥ 104°F



course & task overview





Layout





Layout - Practice and Semi-Finals



noisenador

robosub

Layout - Finals





vehicle entry & exit from pool





harness used to lower/raise vehicle





volunteer swimmers



- **Required Swim Test:** tread water for 1 minute each time they enter the water (reminder, the whole pool is 7 feet deep!)
- It is allowed for teams to use another team's swimmer to support their run, during Practice/Qualifying runs.
- For Semi-Finals, Third-Chance, and Finals, no team-provided swimmers will be allowed.
- RoboNation has acquired masks and fins, if needed.



tasks

 \checkmark



tasks Drop a BRUVS







tasks Tagging





tasks Ocean Cleanup







tasks Ocean Cleanup







qualifying vs. semis & finals

Qualifying

Tuesday-Thursday, August 12-14

- Mandatory Safety Inspection must be completed before entering the water
- Qualification Criteria:
 - Task 1-Gate pass through autonomously to advance to Semi-Finals
- Choosing Qualifying/Practice Time Slots: Teams sign up to practice on a course - two teams could be on one course (B/C)
- Qualification Status: A tracker will be on digital sheet (robosub.org/course-schedule)

Semi-Finals

Friday-Saturday, August 15-16

- Autonomous Score Runs:
 - AUVs operate autonomously throughout entire run, must start with Collecting Data (Gate)
 - No remote-control surveying
 - Only one team on one course
- Choosing Semis Time Slots: Qualified teams will select their time slots during evening Team Meetings Thu/Fri.
- Wild Card: Teams who have not qualified yet, are encouraged to still work toward qualifying and earn a wild card semi-finals spot for Friday and/or Saturday!

Finals Sunday, August 17

- Autonomous Score Runs:
 - AUVs operate autonomously throughout entire run, must start with Collecting Data (Gate)
 - No remote-control surveying
 - Only one team on one course
- Choosing Finals Time Slots: Saturday evening, judges will determine which teams advance to Finals based off Semis scores. Finalists will select their time slots.
- Wild Card: If a Wild Card slot is available, details will be announced Saturday evening on how to earn a Wild Card.

pre-qualification (deadline: August 4)

- Optional opportunity to pre-qualify before traveling to competition.
 Specific instructions on the pre-qualifying maneuver is available in the Team Handbook (also available in previous handbooks).





congratulations pre-qualifiers!

Deadline: August 4, 2025

- École de technologie supérieure | SONIA (2 vehicles)
- Duke University | Duke Robotics
- The Ohio State University | The Underwater Robotics Team
- Cornell University | CUAUV (2 vehicles)
- National University of Singapore | Bumblee Autonomous Systems
- Indian Institute of Technology Bombay | AUV-IITB
- University of Maryland | Robotics@Maryland
- Advancing Science Technology & Art | Team Inspiration
- Nanyang Technological University | Mecatron
- University of Haifa | ANSFL Team





resources & questions





DISCORD

Stay connected and updated on the RoboSub Channel on RoboNation Discord. Scan the QR code below to get started!



JOIN TODAY!

- Scan the QR Code
- Select the RoboSub role
- Turn on notifications!





DATA SHARING

Join the community-driven project created to increase collaboration between teams and address the never-ending quest for test data.

All new teams received invitations. Contact competitions@robonation.org for questions.

ALL THINGS ROBOSUB

For all the latest information and updates all week, scan the QR code to the right and visit the RoboSub website! (robosub.org)



Stay connected and follow the journey via our social media!











@robonationinc





questions?







RoboNation is a 501c3 nonprofit organization whose mission is to provide a pathway of hands-on educational experiences that empower students to find innovative solutions to global challenges. Working together with the industry, research and educators, we have grown to include over nine student competitions and programs and engage more than 250,000 students per year.

For more information contact competitions@robonation.org