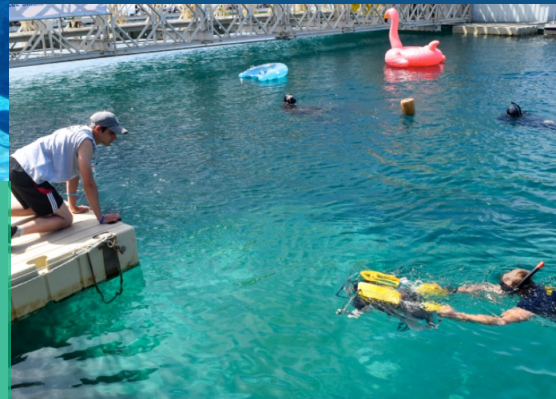
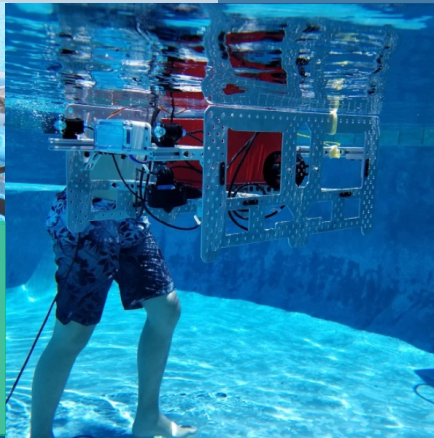
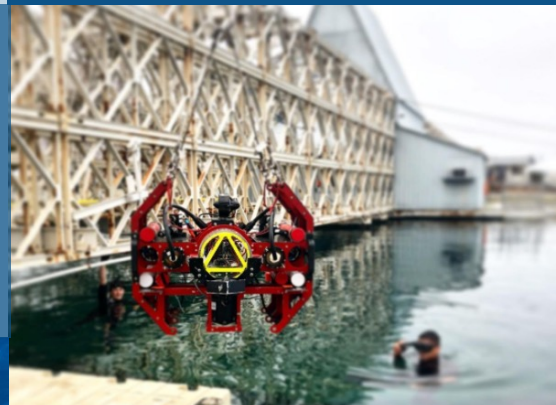




# ROBOSUB TEAM TIME

*Sunday, July 17, 2022 | 7:00 PM Eastern Standard Time*






# Welcome 2022 RoboSub Community!

GET  
STARTED



1 Edit your name to "Name | Team Name"

2  Put your answer in Chat:  
G-man or Bootlegger?



## RoboSub TeamTime

### AGENDA

- [ 19 : 00 - 19 : 05 ] Welcome
- [ 19 : 05 - 19 : 15 ] Design Presentations & Schedule
- [ 19 : 15 - 19 : 25 ] Competition Schedule
- [ 19 : 25 - 19 : 30 ] Event Maps
- [ 19 : 30 - 19 : 40 ] Safety Protocols
- [ 19 : 40 - 19 : 50 ] Competition Structure
- [ 19 : 50 - 20 : 00 ] Questions?





**09** Days to  
The Roarin' Twenties

**RoboSub 2022**



[robosub.org/2022](https://robosub.org/2022)



**July 27 – August 2, 2022**







# RoboSub 2022

## Presentations



[robosub.org/2022](https://robosub.org/2022)

# Design Documentation Evaluations Underway!

- Thank you, Teams, for your submissions!
- Thank you, Judges, for time and feedback!
- Judging and scoring are almost complete:
  - Technical Design Report
  - Competition Strategy Video
  - Website
- Review of the online Demonstration Videos are almost complete. No scoring.







# RoboSub 2022

## Presentations



[robosub.org/2022](https://robosub.org/2022)

# Design Presentations







# RoboSub 2022

## Presentations



[robosub.org/2022](https://robosub.org/2022)

## Preparing for your DESIGN PRESENTATIONS

- 15-minute time slots (in-person & online teams)
  - Team presentation (10 min.)
  - Judges Q&A & vehicle inspection (5 min.)
- May include visual aids  
(e.g., PowerPoint or poster)
- Team schedule available but subject to change
- Sessions recorded and provided to Teams  
post-competition







# RoboSub 2022

## Presentations



[robosub.org/2022](https://robosub.org/2022)

## Preparing for your DESIGN PRESENTATIONS



### In-Person Teams

- Bring your own device and an HDMI adaptor for any slide presentations.
- Backup: bring your presentation on a USB flash drive.



### Online Teams

- Login 10-15 minutes early.
- Be sure to check your internet connectivity in advance.





# PRESENTATION SCHEDULE

## Wednesday, July 27

8:30 AM	Maritime State University – Vladivostok, Russia (10:30 PM Vladivostok)
9:00 AM	Far Eastern Federal University – Vladivostok, Russia (11:00 PM Vladivostok)
9:30 AM	Delhi Technical University – New Delhi, India (6:30 PM New Delhi)
10:00 AM	Federal University of Rio de Janeiro – Rio de Janeiro, Brazil (11:00 AM Rio de Janeiro)
10:30 AM	Federal University of Santa Catarina – Joinville, Brazil (11:30 AM Joinville)
11:00 AM	Instituto Tecnológico y de Estudios Superiores de Monterrey – Monterrey, Mexico (12:00 PM Monterrey)
11:30 AM	LUNCH BREAK
1:00 PM	California State University, Fullerton – Fullerton, CA USA (10:00 AM Pacific)
1:15 PM	END

## Thursday, July 28

8:30 AM	Carnegie Mellon University
8:50 AM	Cornell University
9:10 AM	Duke University
9:30 AM	Autonomous Maritime Robotics Association at Embry-Riddle
9:50 AM	University of Maryland – College Park
10:20 AM	BREAK
10:30 AM	École de Technologie Supérieure
10:50 AM	Syracuse University
11:10 AM	Underwater Robotics Club at NC State University
11:30 AM	University of Alberta
12:00 PM	LUNCH BREAK
1:20 PM	University of Florida, Machine Intelligence Lab
1:40 PM	The Ohio State University
2:00 PM	University of Michigan
2:20 PM	University of Missouri Columbia
2:40 PM	University of Quebec at Three Rivers
3:00 PM	Kennesaw State University
3:30 PM	BREAK
3:40 PM	Lehigh University
4:00 PM	Memorial University of Newfoundland
4:20 PM	Texas A&M Women in Engineering
4:40 PM	California State University, Los Angeles
5:00 PM	END

## Friday, July 29

8:30 AM	Edirne Deneyap Teknoloji Atolyeri
8:50 AM	BRAC University
9:10 AM	Indian Institute of Technology Bombay
9:30 AM	Kasetsart University
9:50 AM	Kyushu Institute of Technology
10:20 AM	BREAK
10:30 AM	Amador Valley High School
10:50 AM	Montana State University
11:10 AM	National University of Singapore
11:30 AM	New York University Abu Dhabi
12:00 PM	LUNCH BREAK
1:20 PM	Oregon Institute of Technology
1:40 PM	San Diego State University
2:00 PM	University of British Columbia
2:20 PM	University of San Diego
2:50 PM	BREAK
3:00 PM	Vortex NTNU
3:20 PM	Wroclaw University of Science and Technology
3:40 PM	END

Download the Schedule



[robosub.org/2022#event](https://robosub.org/2022#event)







# RoboSub 2022



[robosub.org/2022](https://robosub.org/2022)

## Competition Schedule







# RoboSub 2022

## Schedule



[robosub.org/2022](http://robosub.org/2022)

DATE	TIME	EVENT	LOCATION
<b>Tuesday, July 26</b>	3:00 pm	Dorm Check-in	Centreville Hall / Terrapin Garage Parking
<b>Wednesday, July 27</b>	7:30 am – 9:30 am	Breakfast – Dining Hall Open	251 North Dining Hall
	8:00 am – 3:00 pm	Design Presentations – Day 1 ( <i>Online Teams</i> )	<b>TBA</b>
	3:00 pm	Dorm Check-in	Centreville Hall
	4:00 pm – 5:00 pm	Team Check-in	Adele H. Stamp Student Union – Hoff Theater
	5:00 pm – 6:00 pm	Team Orientation	
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool
<b>Thursday, July 28</b>	6:30 am – 8:30 am	Breakfast – Dining Hall Open	251 North Dining Hall
	7:00 am – 7:00 pm	Autonomy Challenge Practice / Qualifying	ERC – Indoor Pool
	8:00 am – 5:30 pm	Design Presentations – Day 2	ERC – Adventure Classroom
	10:00 am – 2:00 pm	Media Day	ERC / Team Village
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool
<b>Friday, July 29</b>	6:30 am – 8:00 am	Breakfast – Dining Hall Open	251 North Dining Hall
	7:00 am – 7:00 pm	Autonomy Challenge Practice / Qualifying	ERC – Indoor Pool
	8:00 am – 5:00 pm	Design Presentations – Day 3	ERC – Adventure Classroom
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool
<b>Saturday, July 30</b>	6:30 am – 8:00 am	Breakfast – Dining Hall Open	251 North Dining Hall
	7:00 am – 7:00 pm	Autonomy Challenge Practice / Qualifying	ERC – Indoor Pool
	8:00 am – 11:30 am	Judge Interaction Time	ERC & Team Village
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	1:30 pm – 3:00 pm	25 <sup>th</sup> RoboSub Celebration <i>Ice Cream, VIPs, Alumni Meetup + more!</i>	Team Village
	4:00 pm – 5:00 pm	Course Judge Training	ERC – Adventure Classroom
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool





# RoboSub 2022

## Schedule



[robosub.org/2022](https://robosub.org/2022)

DATE	TIME	EVENT	LOCATION
<b>Sunday, July 31</b>	6:30 am – 8:00 am	Breakfast – Dining Hall Open	251 North Dining Hall
	7:00 am – 7:00 pm	Autonomy Challenge Semi-Finals – Day 1	ERC – Indoor Pool
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	12:30 pm	Team Photo	ERC
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool
<b>Monday, August 1</b>	6:30 am – 8:00 am	Breakfast – Dining Hall Open	251 North Dining Hall
	7:00 am – 7:00 pm	Autonomy Challenge Semi-Finals – Day 2	ERC – Indoor Pool
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	10:00 pm – 2:00 am	Overnight Pool Testing	ERC Pool
<b>Tuesday, August 2</b>	6:30 am – 8:00 am	Breakfast – Dining Hall Open	251 North Dining Hall
	8:00 am – 12:00 pm	Last Chance / Finalist Practice Runs	ERC – Indoor Pool
	11:00 am – 1:00 pm	Lunch – Dining Hall Open	251 North Dining Hall
	1:00 pm – 5:00 pm	Autonomy Challenge Finals	ERC – Indoor Pool
	7:00 pm – 8:00 pm	Awards	Adele H. Stamp Student Union – Hoff Theater
	8:30 pm – 12:00 am	Pool Party <i>Teams Only</i>	ERC – Outdoor Pool

Download the Schedule



[robosub.org/2022#event](https://robosub.org/2022#event)

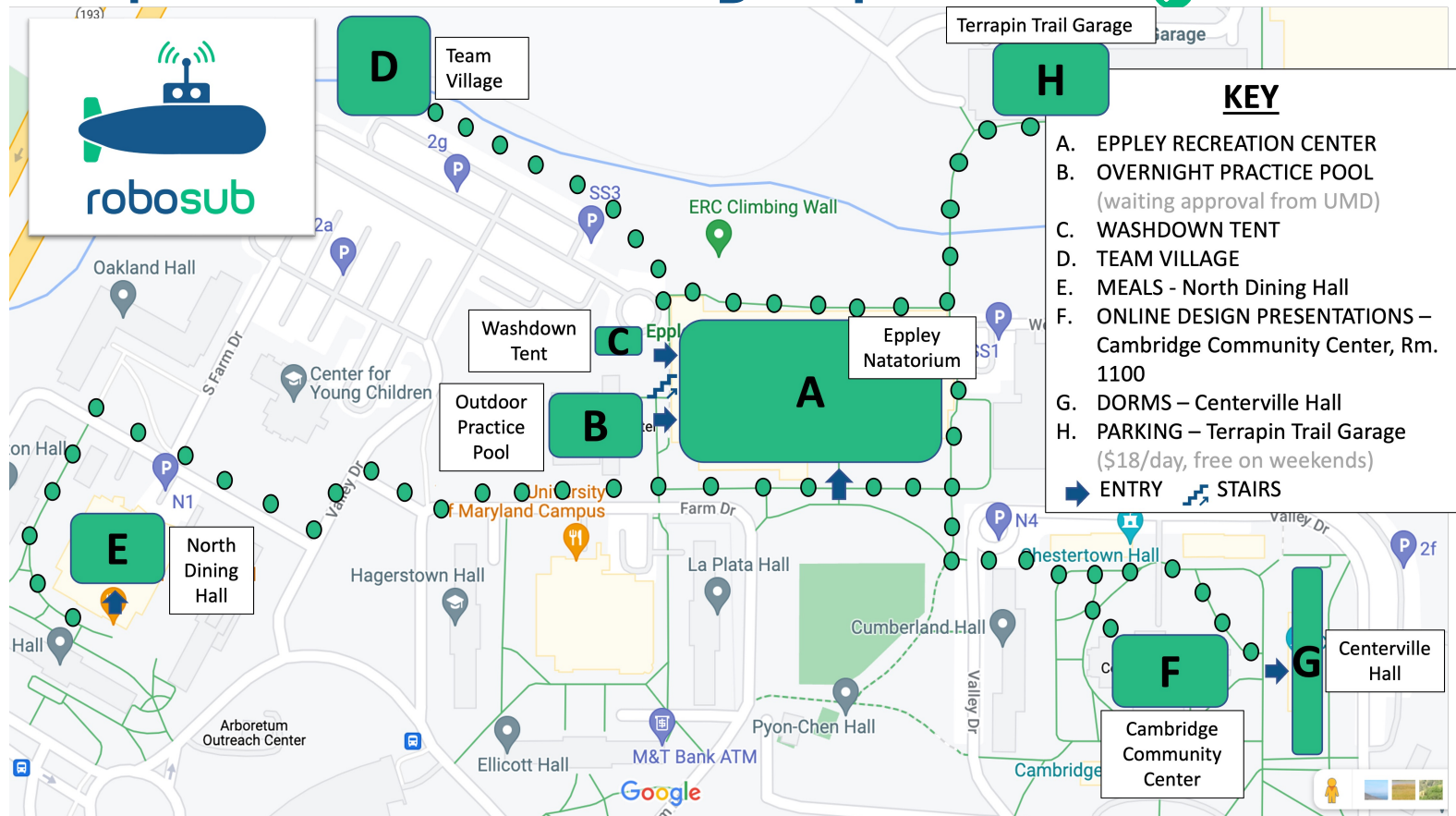




# Competition Venue Walking Map

Download the Maps

 [robosub.org/2022#event](https://robosub.org/2022#event)





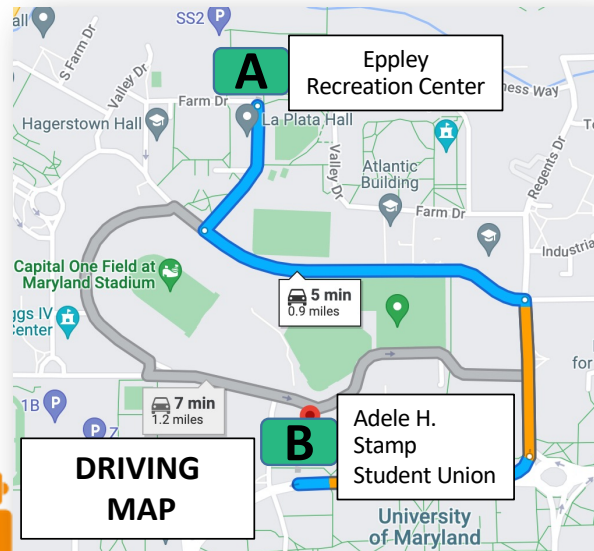
# Team Orientation / Awards Map

## KEY

**A. EPPLEY RECREATION CENTER**

**B. ADELE H. STAMP STUDENT UNION**

- 1) July 27 – 5:00 pm - Team Orientation
- 2) August 2 – 7:00 pm - Awards





# Dorm Housing

**All Housing Packages** include 1 pillow, 1 pillowcase, 2 sheets, 1 blanket, and 2 towels. Personal items such as soap, shampoo, toothpaste, hairdryers, and washcloths are not provided. No maid service or daily bed linens changes are provided. Towels only may be exchanged daily at the Hospitality Desk. Bringing an additional blanket is recommended as the dorms may be chilly.

*\* Please note that these are standard college dorms with two extra-long twin beds per room. All dorms (including private rooms) have communal bathrooms on each floor.*

## Room Assignments:

- Students will be grouped two to a room by gender and age unless a single room is selected.
- Roommate requests will be accommodated as much as possible but are not guaranteed.
- Dorm assignments will be provided at dorm check-in. (location to be sent this week)


## Cancellations or Changes

- No refunds at this point.
- Contact [events@robonation.org](mailto:events@robonation.org) with any changes or questions.



# RoboSub 2022

## Important Dates

 [robosub.org/2022](https://robosub.org/2022)





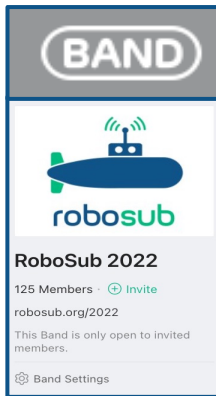
# RoboSub 2022

## COVID-19



[robosub.org/2022](https://robosub.org/2022)

# COVID-19 Protocols



1. Download BAND app.
2. Daily COVID-19 health screening reminder on BAND.
  - Complete Google Form
3. Participants with positive test result not allowed on site. Teams must follow submitted COVID-19 Plan.

Download the BAND App



[robosub.org/2022/band](https://robosub.org/2022/band)







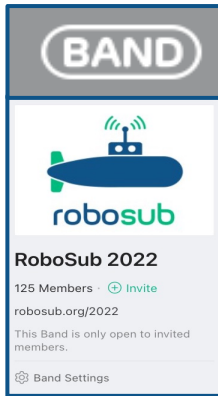
# RoboSub 2022

## COVID-19



[robosub.org/2022](https://robosub.org/2022)

# COVID-19 Testing



International teams that need COVID-19 testing before returning to your home country can schedule an appointment at a pharmacy close to the UMD College Park campus.

See the Helpful Health Tips post on RoboSub BAND (June 18<sup>th</sup>).

Download the BAND App



[robosub.org/2022/band](https://robosub.org/2022/band)







# RoboSub 2022

## Safety



[robosub.org/2022](https://robosub.org/2022)

# Safety Protocols

1. Always – SAFETY FIRST!
2. Team Orientation on Wednesday, July 27<sup>th</sup>  
*recommended: all team members attend*
1. Safety Inspections
2. Battery Safety Requirements
3. Kill Switch (Emergency Stop) Requirements



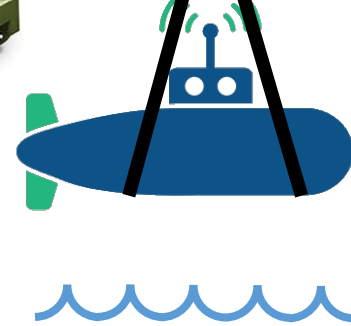


# Getting to & In/Out Water

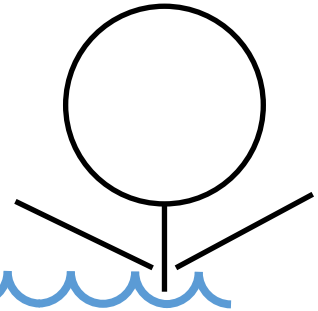
Cart it



Harness it



Not you

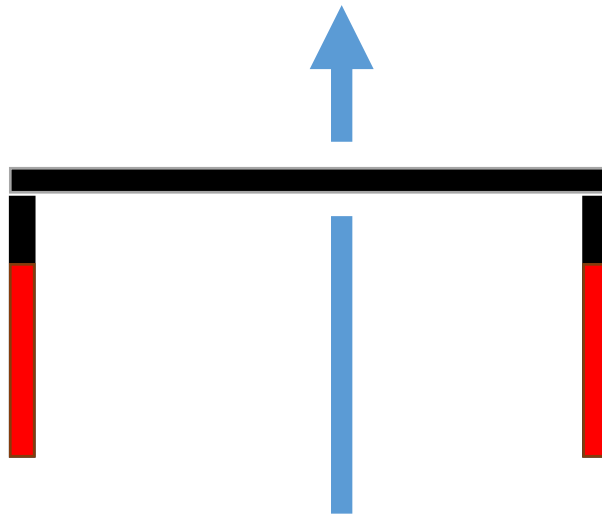




# Competition Structure

## Practice

- 0700 to 1900 (7am to 7pm)
- 30 min time slots, includes putting in and taking out the Sub
  - The easier the harness, the more in-water time you have
  - Sign up for any time slot
- 0630 Lottery
- Qualification
  - Autonomously pass through the gate
  - Two semi-final slots
  - Pre-qual and be done!





# Pre-Qualified ( Yay!!! )

-  AVBotz (Marlin)
-  BRACU (Duburi 3.0)
-  CUAUV (Leviathan)
-  AUV IIT Bombay (Matsaya 6B)
-  Bumblebee Autonomous Systems  
(Bumblebee AUV 4.0)
-  Tartan AUV (Kingfisher)
-  Vortex NTNU (Beluga)
-  SONIA (AUV7, AUV8)
-  ARVP (ARVP)
-  SEAPUP (SEAPUP)





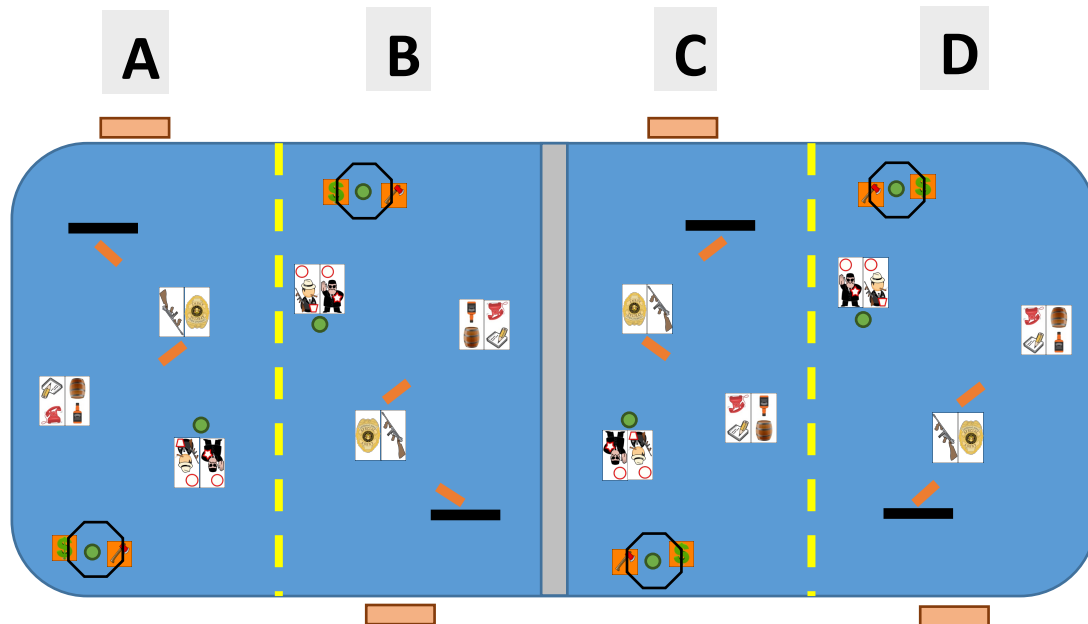
# Competition Structure

## Semi-final (A&B)

- Adjust A&B
- Every team qualified gets two runs
  - One on “A” and one on “B”
    - Choose 1<sup>st</sup> run “evening” of the last practice day
    - Choose 2<sup>nd</sup> run “evening of the first semi-final day
  - C & D still open for practice
- Last run for each semi-final slot
  - 15 min clock
    - Stops when retrieving sub
    - **IF** you pass through the gate
  - Lock in a run for an autonomous survey
  - Best of your two semi-final runs

## Wild-Card (WC)

- Teams not yet qualified can still “qualify”
  - Qualify during the 1<sup>st</sup> semi-final day
  - Pick next available WC slot for that day
  - Need to qualify all over again on the 2<sup>nd</sup> day





# Finals

## “Evening” of 2<sup>nd</sup> semi-finals run

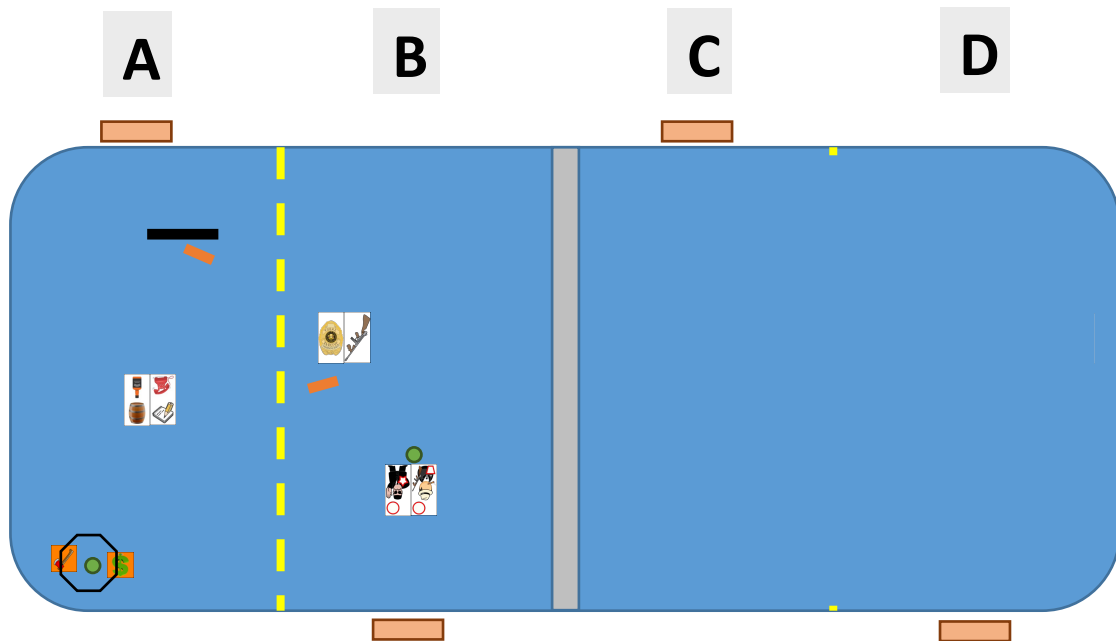
- Teams in the finals are announced
  - Choose their practice slot
  - Choose their finals run order
    - You’re selecting and order and not a “specific” time
- Teams selected for Third Chance
  - Choose their time slot for C or D

## Morning

- Teams in the finals practice on the course
  - A&B combined
- C or D : Third Chance
  - 1<sup>st</sup> place team above a point threshold gets the Finals WC slot

## Afternoon

- Adjust the course
- Teams run in the order they’ve selected
  - Free running clock
  - Your best run during the slot is scored







# RoboSub 2022

## Data Sharing



[robosub.org/data-sharing](https://robosub.org/data-sharing)



DATA FOR ALL  
TEAMS



LARGE DOMAIN  
OF DATASETS



BETTER PLATFORM  
FOR NEW TEAMS



## Call for Data

Access to Data Sharing



[robosub.org/data-sharing/access](https://robosub.org/data-sharing/access)





# RoboSub 2022

## Important Dates



[robosub.org/2022](https://robosub.org/2022)

## Important Dates

### Dorm Cancellation or Change

- No refunds at this point.

### Event Cancellations & Refunds

- **50% Refund, June 13 – July 27, 2022:** Cancellations submitted between June 13 and July 27, 2022, will receive 50% refund of registration fee paid.


For more details: [robosub.org/cancellation-policy](https://robosub.org/cancellation-policy)







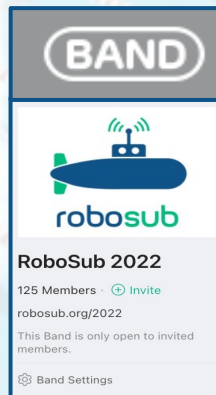
# RoboSub 2022

 [robosub.org/2022](https://robosub.org/2022)


## RoboSub TeamTime Meetings

- NO MORE 2022 TEAMTIME MEETINGS!
- This is it, folks. That's all she wrote.

## Band App for all the Updates



Hop on the RoboSub Band(wagon)!

 [robosub.org/2022/band](https://robosub.org/2022/band)





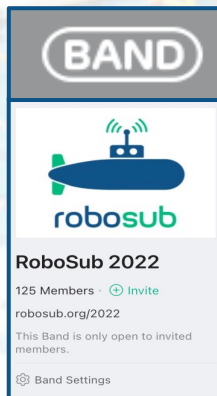
# RoboSub 2022

## Announcements



[robosub.org/2022](https://robosub.org/2022)

## Sign up for the Band App



**Hop on the RoboSub Band(wagon)!**



[robosub.org/2022/band](https://robosub.org/2022/band)

*Are pictures or videos of all of the different pools and courses available?*

*Is the outdoor pool location secure, and will be able to leave some of our supplies either there or indoors?*

*Doe the pool water contain chlorine or salt, and if it contains chlorine, then will a hose be provided in order for us to rinse off our AUV?*

*Is there a drop-off point for team supplies in parking lot SS1 or SS2?*


*As they were in the past, will silver carts/wheelbarrows be available to teams to use to transport materials?*

**GO TO ROBOSUB BAND OR THE FORUM FOR THE ANSWERS!**





# RoboSub 2022

 [robosub.org/2022](https://robosub.org/2022)

## Got Questions?



Email  
[autonomy@robonation.org](mailto:autonomy@robonation.org)



Discussion Forum  
[robonationforum.vbulletin.net](https://robonationforum.vbulletin.net)





# RoboSub 2022



[robosub.org/2022](https://robosub.org/2022)

# Let the **Roarin' Twenties** Begin

Good Luck, Teams!!  
We'll see you in **9 days!**







# robonation



seaperch



seaglide



gosense



roboboat



robosub



robotx



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 [university-competitions@robonation.org](mailto:university-competitions@robonation.org)