

# April Community Hour Notes

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## 1. Teams Represented

### ROBOBOAT TEAMS

- Diponegoro University
- Florida State University Panama City
- Institut Teknologi Sepuluh Nopember
- Sebelas Maret University
- Tel Aviv University
- Universitas Indonesia
- University of Michigan
- University of Louisiana at Lafayette

### ROBOSUB TEAMS

- Ain Shams University
- Arizona State University
- California Institute of Technology
- Desert Wave
- École de Technologie Supérieure
- Federal University of Santa Catarina
- Harvey Mudd College

### ROBOSUB TEAMS (CONT.)

- Indian Institute of Technology Bombay
- Indian Institute of Technology Kanpur
- Montana State University
- National Institute of Technology, Rourkela
- National University of Singapore
- Palomar College
- San Diego State University
- Team Inspiration
- Team Simplicity
- The Ohio State University
- Troy High School NJROTC
- University of Michigan
- University of Puerto Rico at Mayagüez/RUMarino
- Vellore Institute of Technology
- Vortex Alexandria
- Wroclaw University of Science and Technology

## 2. Agenda & Notes

### 2.1. Agenda

[7:00-7:10] **Welcome**

[7:10-7:15] **Engagement Opportunities This Month**

[7:15-7:40] **RoboBoat & RoboSub Submissions – Judge’s Perspective**

[7:40-7:45] **RobotX WAM-V Submissions – Reviewer’s Perspective**

[7:45-7:55] **Questions?**

## 2.2. Engagement Opportunities This Month [7:10-7:15]

### **XPONENTIAL Conference | May 4-6, 2021**

- **Two (2)** Full-Conference Passes Available!
- Access to keynotes, roundtables, networking and education sessions (available on-demand).
- **More Information on the Conference:** [xponential.org](http://xponential.org)

### **T-Shirt Design Contest | DUE May 9, 2021**

- Multiple submissions are welcome
- Must utilize competition logo and the 2 brand colors
- All half-baked ideas are welcome!
- **Submit your RoboBoat t-shirt ideas:** [roboboat.org/t-shirts](http://roboboat.org/t-shirts)
- **Submit your RoboSub t-shirt ideas:** [robosub.org/t-shirts](http://robosub.org/t-shirts)

### **Volunteer at the SeaPerch Virtual Event | June 4-5, 2021**

- **Volunteer as a Judge:** [seaperch.org/2021-judges](http://seaperch.org/2021-judges)
- Other opportunities coming soon!
- **Sign up for Future Volunteer Opportunities:** [robonation.org/volunteer](http://robonation.org/volunteer)

## 2.3. RoboBoat & RoboSub Submissions – Judge’s Perspective [7:15-7:40]

### **RoboBoat 2021 / RoboSub 2021**

- **Submissions:** 3 required submissions
  - Skills Video(s) – NEW
  - Technical Design Report
  - Website
  - **Optional** Demonstration Video

[Click here for RoboBoat submission guidelines.](#)

[Click here for RoboSub submission guidelines.](#)

**RoboBoat & RoboSub Submissions – Judges’ Perspective (cont.)**

*(next page)*

## Judges' Perspective

- **Systems Engineering 101**

- **WHY** are you doing this?
  - To compete effectively per the rules of the competition
  - To learn something
  - To demonstrate to others that you know something
  - To teach others
- **WHAT** are you going to do to best meet the objectives?
  - What tasks will you attempt?
  - What is your list of requirements to meet the tasks?
    - ...I need a platform to hold me "stuff"
    - ...My platform needs to move in the water or air
    - ...My platform needs to, etc....
  - What are the "derived requirements"?

***WHY? To compete effectively per the rules of the competition.***
- **HOW** will you achieve what you intend to do?
  - Most engineers want to start here – PLEASE DON'T!
  - Once you decide how you will accomplish something, you are fixing a path from which it may cost much (time, money, other resources) to recover.

***IF I CAN GET YOU TO UNDERSTAND ONE THING FROM THIS PRESENTATION IT'S THIS:***

***DON'T START WITH THE HOW***

- **HOW WELL** – How will you know if you have achieved your objectives?
  - Testing
  - Measuring
  - Personal satisfaction
  - Year over year improvement
  - Judges' feedback

***This last bullet is likely what may be of interest to you...***

- **Judges' Perspective on the Submissions**

[Click here for RoboBoat submission guidelines.](#)

[Click here for RoboSub submission guidelines.](#)

- **Technical Design Report**
  - Follow the guidelines provided in the rules
  - Tell us a story...don't simply give us a list of parts
  - Don't tell us the, "Thigh bone is connected to the hip bone, the hip bone's connected to the spinal column."
  - Tell us why you made the choices you made
  - Include graphics and photos
  - Get a technical editor if you are unsure of your writing capabilities
  - Have someone who has not written the paper proof-read it for spelling and grammar errors

- **Skills Video(s)**

- Follow the guidelines provided in the rules
- Tell us a story... don't simply give us a list of parts
- Tell us how you did it, including any failed attempts
- Think about any "how to" video you have seen on YouTube
  - What did you like?
  - What was hard to follow?
- Use visual aids, such as signs or add captions to any audio information that is not perfectly clear.
- Show a general approach, but then perhaps provide a "deep dive" to add clarity or show some detail

*Our goal is to create a video library from which future generations may learn.*

- **Website**

- Follow the guidelines provided in the rules
- Treat this as an opportunity to advertise who you are and what your team can do
- Use this venue to promote yourselves
  - Include resumes of team members
  - Include any papers your team or members have had published
  - Include video products
  - Include any engineering products you created during your design process
- Acknowledge and thank your sponsors and supporters
  - Funding and other contributions
  - Mentorship
- Avoid flash and clutter

*Clean up and archive previous versions of your website.*

- **Optional Demonstration Video**

- Share your fun with us
- Show us what you did and what you learned, even if it's only one task
- Tell us how you set up your task environment
- Acknowledge and thank your sponsors and supporters
- Consider this an opportunity to practice for preliminary qualifications for future events
- BE CREATIVE!!!

*Won't be officially judges, but may earn a special Judges' Award?*

**RobotX WAM-V Submissions – Reviewer's Perspective**

*(next page)*

## 2.4. RobotX WAM-V Submissions – Reviewer’s Perspective [7:40-7:45]

[Click here to find out more about RobotX 2022.](#)

### RobotX WAM-V Applications

- Follow the guidelines provided in the application announcement
- Consider this as you might a small start-up company
- We want to know that you have the technical capability to compete at RobotX
- We want to understand that RoboNation’s investment in your team will find additional support for all you will need beyond the WAM-V platform
- Share your plan to recruit all the talent you need to be successful in Sydney in 2022
- Convince us that your team has the potential to be great!

**Applications are now closed.**

## 2.5. Questions? [7:45-7:55]

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

\* **Forum:** [robonationforum.vbulletin.net](http://robonationforum.vbulletin.net)

\* **Community Hour Topic ideas?** [robonation.org/community-hour](http://robonation.org/community-hour)

\* **Future Community Hour information?** [robonation.org/community-hour](http://robonation.org/community-hour)

### RoboBoat/RoboSub General Questions

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*We are planning a demo day for our sponsors and mentors at the beginning of June with full autonomy, what is the submission date of the demonstration video?*

- RoboBoat deadline: June 13  
All deadlines → [roboboast.org/2021](http://roboboast.org/2021)
- RoboSub deadline: July 18  
All deadlines → [robosub.org/2021](http://robosub.org/2021)

*Can you provide more insight as to why the submissions deadline is much earlier than previous years? Now that restrictions are easing up, students getting vaccinated, and with the school semester ending, the summer seems like a great time to continue progress. Any insight is appreciated!*

- We tried our best to match the timeline to our usual competition timelines we’d follow for an in-person competition. Each team is required to submit at least one ~11-minute Skills Video, one ~10-page report, and a fully developed website. Based on number of RoboBoat teams, we need to allow for ~3 weeks for judges’ evaluation and score compilation. Based on number of RoboSub teams, we need to allow for ~4-5 weeks for evaluation. Our judges are completely voluntary, so we have to allow for appropriate time for them to adequately review all your submissions and for us to compile the appropriate scores.

## RoboBoat/RoboSub Submission Questions

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### --Skills Video(s)--

*The topics for the skills videos totally ignore the software effort, especially for teams that work on developing architectures from scratch. Is it okay if such teams embed such efforts within the closest fitting category (sensor optimization, for example)?*

- Yes, teams should embed such efforts into the category/categories they choose for their Skills Video(s).

*For the skills video the document mentioned a confidence rating for being able to complete competition objectives. Any suggestions on how to go about this?*

- Judges are looking for an estimation for how well and why your approach is expected to work.

*Regarding the skills video - should the competition strategy be from the viewpoint of the particular topic we have chosen, or can it be general too?*

- This should relate to your team's participation in the competition, but could relate to general use in some cases.

*Can you elaborate more on what specifically each skills video category encompasses?*

- [Hull Design] A few examples: Water proofing (RoboSub). Boat space (RoboBoat). Placement of systems or subsystems within the hull.
- [Power Management] A few examples: Need to have enough power to do the run, element of power storage/consumption. Something about batteries you've learned. Setting up a recharging system so you are ready and have sufficient power to compete or practice.
- [Propulsion System] Consider: Why are you using what you're using? How does it support system performance? Why did you choose this?
- [Sensor Optimization] Consider: What system? Location for best performance? Trade space for decisions. How you place sensors within hull for sensing and perception but also ease of access for critical failures. Multiple sensors providing same information? How do you determine what you use the data for or how to use/fuse the data?

### --Technical Design Report--

*Regarding the TDP, will for example adding a section on Underwater Communication increase our points (since in the offline competition, it carried 1000 points).*

- This is an important consideration! RoboNation will discuss internally.

*In the guideline of the technical design report, there are links for checking our writing, do we have to use those services? or we can use other services?*

- Use whatever service you'd like! We simply provided that option for those without a resource.

*For the TDR, is it okay to compare our current model to our model in the past roboboat competition, for ex: showing how our current model will accomplish the mission better due to the some changes that we've made from the previous model or should we focused only on how our current model will accomplish the mission?*

- Yes! That would be an interesting paper.

*For the TDR, a lot of changes that where made this year were made to incorporate the use of a drone as a "detachable" mobile sensor. How much talk and discussion of the drone would be okay to include in the report? And also in the videos etc*

- Focus on how the asset would support team performance overall and what additional requirements it added to hull design and other design elements. Could be considered under sensor optimization (skills video). Could talk about situational awareness (visual scheme).

--Website--

No Questions!

--Optional Demonstration Video--

*We are planning a demo day for our sponsors and mentors at the beginning of june with full autonomy, what is the submission date of the demonstration video?*

- RoboBoat deadline: June 13  
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- RoboSub deadline: July 18  
All deadlines → [robosub.org/2021](https://robosub.org/2021)

*Are there any restrictions on the optional video in terms of length or content?*

- Video must be no more than 20 minutes in length. Content instructions are available in the guidelines (linked below).

[Click here for RoboBoat submission guidelines.](#)

[Click here for RoboSub submission guidelines.](#)