

# RoboNation Stakeholders Report

---



Q2 2021

---



# From The Humans

## Greetings Humans! (And those that work with them.)

Since our last report, we've been busy with our summer competition season. We started with our first virtual International SeaPerch Challenge which brought together inspiring speakers, motivated students, passionate educators and advocates to share and celebrate the teams' accomplishments. Although we missed seeing everyone in person, we are very proud of what we accomplished as a community and are excited to share some of the highlights in this report.

SeaPerch is the entry point on RoboNation's pathway of programs. Participation often ignites students' interest in exploring what's next. That question was a central theme throughout the Challenge sessions but the best answer came from Dr. Robert Ballard, our keynote speaker and the deep-sea explorer who found the Titanic. When asked by a student, "What is the next step for me now that I've built a SeaPerch ROV?", Dr. Ballard said it best. "Autonomous vehicles. Autonomy is the future."

## "Autonomy is the future"

At RoboNation, we couldn't agree more with Dr. Ballard's quote, especially since it is the perfect segue into the rest of our 2021 summer lineup with our autonomous vehicle competitions: IGVC, RoboBoat, RoboSub, and IARC. (You can visit [robonation.org](https://robonation.org) to learn what those acronyms mean and to discover our range of answers to, "what's next?")

We'll be back with results from those events in our next report, but in the meantime we hope you are enjoying your summer and having fun building some bots.

Lindsey Groark, Pre-University Program Director

## 2021 GOALS



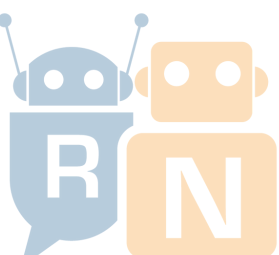
**Reduce Barriers  
to Participation**



**Promote Meaningful  
Engagements**



**Increase Impact**





# Pre-University Programs



## Diving into the 2021 SeaPerch Season

The 2021 SeaPerch Season was unlike any we've had before and included opportunities for virtual participation and engagement with other teams. This season extended from the 2020 season, allowing teams to further develop their ideas focused on Waterway Cleanup.



**Technical Design Report** | Teams submitted technical design reports that communicated their intentional design process and highlighted the ways that the team's ROV or team approach was unique.



**Team Interview** | All competing teams participated in a 15-minute live, virtual interview with a panel of judges. Questions varied between their engineering design and team approach.



**Pool Course** | Instead of running pool tasks in person, teams submitted videos to demonstrate the performance of their novel ROV design. 25 teams submitted videos for this event.



**Real-World Innovation** | This optional event invited teams to submit a digital poster exploring a real-world application for underwater ROVs. 31 teams submitted a poster, with 451 public reviews during the review period.

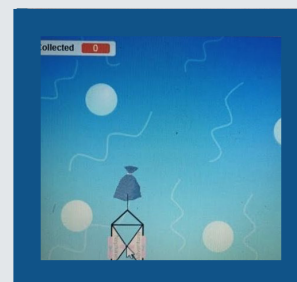


**Community & Outreach** | This special "Give Back" event focused on Community and Outreach. 18 teams provided a short written statement with supporting photos or videos describing how they were giving back to their community.

## NOTABLE PROJECTS



Raise awareness about recycling



Create tools and offer near-peer mentorship



Machine learning for real-world environmental research

## COMPETITION STATS



**325**  
Participants



**81**  
Teams



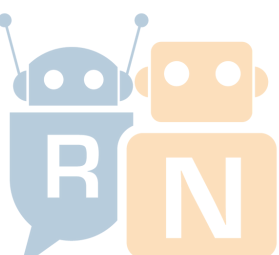
**93**  
Mentors



**72**  
Judges



**43**  
Graduates



# Pre-University Programs



**International SeaPerch Challenge sessions were all recorded and are available for post-event viewing.**

The 2021 International SeaPerch Challenge event was full of amazing speakers, live Q&A sessions, season highlights, awards, and best of all, active engagement with SeaPerch teams from all over the world.

Thanks to all 45 incredible speakers, the event lineup was jam-packed with valuable content and opportunities for the community of students, educators, mentors and parents to grow. Many community members expressed their appreciation of having a dedicated time to celebrate the competition season, despite the inability to be together in-person. We see a huge potential for hybrid events in the future!

## SESSION HIGHLIGHTS



Dr. Bob Ballard



Brett Phaneuf  
Mayflower Autonomous Ship

### Real-World Application

Inspirational speakers were in abundance! Wildlife conservation (Snotbot) and cutting edge technology (Mayflower Autonomous Ship, Nvidia). Building the future workforce and career advise (Robotter, Peraton) to hands-on coding (Kai's Clan) and what's next (Bob Ballard).



Dr. Iain Kerr  
Ocean Alliance



Ronel Schodt and  
Bruce Jackson  
kai's <clan>

### Near-Peer Learning

SeaPerch alum shared tips for successfully competing and where they are now. RoboNation university students share insights into autonomous competition experiences and a look ahead to what might be next.



Elijah May  
Robotters



Laila Salguero-Saeed  
Peraton

## EVENT STATS



**2,334**  
User Engagement  
(Comments, Posts, Questions)



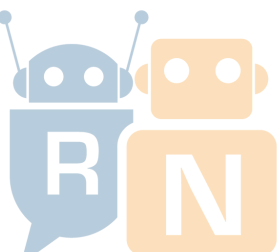
**598**  
Attendees



**18**  
Sessions



**45**  
Speakers





# University Programs



## WAM-V Awards

Teams from around the world submitted proposals to receive a free WAM-V platform, the vehicle that is required to compete at the Maritime RobotX Challenge. After a panel of evaluators reviewed and scored each proposal, 9 teams were awarded 16' WAM-V platforms in preparation for their participation at the 2022 Maritime RobotX Challenge. RobotX 2022 is scheduled for 11-17 November 2022 at the Sydney International Regatta Centre outside of Sydney, Australia.

9 WAM-V Awards

22 Applications

13 Countries

12 Evaluators

[robotx.org/wam-v-awards](https://robotx.org/wam-v-awards)

16 Competing Teams

9 AutoNav Teams

7 Self Drive Teams

13 Universities

[igvc.org](https://igvc.org)



## IGVC 2021

After taking a year off in 2020 due to the pandemic, the 28th Intelligent Ground Vehicle Competition (IGVC) came back strong on June 4-7, 2021. Students and faculty were introduced to a semi-new venue at Oakland University, with both AutoNav and Self Drive Challenges side by side. The University of Oklahoma took 1st place in AutoNav and Rookie of the Year recognition, and Lawrence Technological University took 1st place in Self Drive for the fourth year. The 29th Annual IGVC is scheduled for 3-6 June 2022 at Oakland University in Rochester, MI.



Photo Credit: U.S. Army

RoboNation is actively seeking sponsors and partners for 2022 competitions and programs. Contact Janelle at [jcurtis@robonation.org](mailto:jcurtis@robonation.org) for more information.

