

# Activity Report

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## Overview

### **ARLISS (A Rocket Launch for International Student Satellites):**

It started from 1999 to provide students some opportunity to launch their hand-made satellites or rovers into suborbital space. At ARLISS at the Black Rock, Nevada playa (dry lake bed) 100 miles north of Reno, Nevada, student payloads are carried up to over two miles in amateur high power rockets. These rockets are provided by the members of AeroPAC, the northern California rocket club. The satellites using parafoils and rovers try to land on/drive to the marker (goal) on the desert. The Japanese student groups participate in this competition, called "Come Back Competition". This is an annual event and UNISEC has been supporting Japanese university students since 2002.

## Date and Venue

Announcement Date April 10, 2018  
·Sep. 9, 2018: Technological exchange meeting  
Event Date ·Sep. 10~13, 2018: Opening ceremony & competition  
·Sep. 14, 2018: Breakfast meeting  
Venue The Black Rock Desert, Nevada, U.S.A.

## Participation

Total number of participants 180  
Category of Participants  Students  Engineers/Instructors  Both  
International Participants  No  Yes  
If yes, how many international participants were attended the activity? 94

## Participants Group Photo



1<sup>st</sup> Day of Competition



2<sup>nd</sup> Day of Competition



3<sup>rd</sup> Day of Competition  
(Desert Wind)



4<sup>th</sup> Day of Competition  
(Early Morning View)



4<sup>th</sup> Day of Competition  
(Night View)



Breakfast Meeting  
on Sep. 14th



Group Photos

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## Results and Conclusion

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The 20<sup>th</sup> ARLISS Competition had a total of 26 teams this year, 15 of which were Japanese and 11 foreign from Costa Rica, South Korea, Mexico, Peru, and U.S. What is distinctive this year is that the record-high foreign teams participated in the competition and that ARLISS marked 20<sup>th</sup> anniversary this year.

ARLISS 2018's detailed results are as follows:

1) Preliminary discussion & technological exchange meeting on Sep. 9<sup>th</sup>: All teams gathered at Bruno's Country Club, the hotel located in the closest village Gerlach from the rocket's launch site to call their attention to safety management and discuss technological issues.

2) Opening ceremony & competition between Sep. 10<sup>th</sup> and 13<sup>th</sup>: On Sep.10, the opening ceremony started with greetings from University of Tokyo Professor Nakasuka and AeroPAC's representative Mr. Ken. On the first day, the fair weather offered a perfect chance for a launch. On the second day, the desert wind started blowing from the afternoon. The launch was put a halt, and participants were dismissed in the afternoon. On the third day, the desert wind became severe from 11am, but the weather was recovered from 2pm. Accordingly, the launch was resumed, but some groups lost their CanSat due to a strong wind. On the fourth day, many teams started launching from 7 am since the weather was not favorable for the past two days.

3) 20th anniversary event on Sep. 13<sup>th</sup>: In the evening of the fourth day, the 20th anniversary event took place. Professor Nakasuka, who has involved in ARLISS from the onset, made a one-hour presentation.

4) Breakfast meeting on Sep. 14<sup>th</sup>: All teams reported their outcomes of the four-day competition on the next day.

Also, ARLISS 2018 gave awards to the following teams:

1) Overall winner (determined by votes): 1st MARS GEAR, 2nd IRL-GBY, Rossete (2 teams)

2) Accuracy award (determined by distance from the goal): 1st Ares (5.21m), 2nd IRL-GBY (80m), 3rd The Wright staff (900m)

3) Technology Comeback system award (determined by votes): 1st The Wright staff, 2nd Ares, 3rd IRL-GBY

4) Best mission award: 1st Rossete, 2nd Rasticas, 3rd Ares

5) UNISEC award (determined by UNISEC professor): MICHIBIKI