

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Lift Off - Secondary Space Education (2)

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APRSAF WATER ROCKET EVENT 2022: ONLINE EVENT USING NEW METHODS DURING THE
PANDEMIC**Abstract**

Space Education for All Working Group, one of the working groups for the Asia-Pacific Regional Space Agency Forum, has been holding the Water Rocket Event every year onsite since 2005 until 2019. The event provides an opportunity for students to learn craftsmanship, science, and technology through making water rockets. Furthermore, the event emphasizes the importance of international exchange among participants from the Asia-Pacific region, who share the same ambitions, encouraging them to foster and enhance their aspirations. Though we cancelled the event in 2020 because of COVID-19, we decided to hold the event in 2021 online for the first time. By going online, new methods and rules were required for the competition. Firstly, students launched water rockets in their own countries and tried to land them as close as possible to the target which stands 60 meters away. Before the pandemic, we invited students to a host country for the event. Secondly, we required students to take videos of their rocket launches. This would give us proof that they actually launched it. Finally, they installed the "Data Acquisition Unit (DAU)" to their rockets and submitted the information on our website manually. The DAU was newly created for this online event, and is comprised of a series of components. We used the DAU because we thought it would be interesting for students to know detailed information about their rockets' stability, height, etc. We managed to hold everything online— besides the competition itself. This included the award ceremony, international exchange session for students, and online educators' session. Sixty-four students (aged between twelve and seventeen) from eleven countries and one region participated in the event. During the award ceremony, students and educators showed their country's presentation videos to briefly share their culture with everyone. In the international exchange session, students were divided into groups using Zoom breakout rooms to interact with each other. Students gave their speeches introducing themselves and talked about innovations they made when making their rockets and the difficulties they have encountered. During this talk, the advantages and challenges concerning this online event will be presented. We will explain how we organized this event (i.e., how to make an effective student handbook to get to know other students, how to prepare their speeches, and how to use Zoom, etc.). Also, we will discuss how we can improve the event and analyze the responses we received from students and educators.