

# SUMMER 2020 NEWSLETTER

## Thank You!

Thanks for your continued AIAA membership and dedication to shaping the future of aerospace in Louisiana and southern Mississippi. Your involvement is vital to the continued success of our organization. In this time of strange uncertainty, please join me in expressing your appreciation for the first responders and essential workers that protect and support us all.

## An Engineering Legend

August 10<sup>th</sup> marks the 63<sup>rd</sup> anniversary of the first manufactured object to achieve Earth escape velocity. At the Nevada Test Site in the summer of 1957, physicist [Robert Brownlee](#) attempted to contain the blast wave of an atomic detonation at the bottom of a 500 foot shaft with a four-inch thick steel plate weighing 2000 lbs. Based upon the evidence from a high-speed camera, Brownlee calculated that the steel plate was traveling vertically at a velocity of at least six times that needed to escape the influence of Earth's gravity, around 150,000 miles per hour. The Soviet Sputnik 1 satellite would later become the first human-made device to orbit the Earth on October 4<sup>th</sup> of the same year. The launch of the man-hole cover was also the first instance of nuclear pulse propulsion. Assuming that the plate didn't completely vaporize while clearing the atmosphere, the object's exact trajectory remains a mystery.

## Mars Analog Astronaut Research Opportunity

The priority deadline to submit an application to send a crew to the Mars Desert Research Station (MDRS) for the 2021-2022 field season is approaching in the fall of 2020. Located in Utah's Moab desert, the MDRS

conducts analog research into human factors, geological, and biological studies applicable to future crewed exploration of Mars. AIAA members that are interested in forming a team to apply may email Glen Guzik no later than September 13<sup>th</sup>. Information on the MDRS is available at the following link: <https://mdrs.marssociety.org/>

## Member Spotlight



Rachael Trujillo is a new student member of AIAA. She completed a Master of Liberal Arts from Tulane University in December of 2015 with emphasis on Technical Writing and continued to complete a Master of Public Health in Global Community & Behavioral Health in May of 2020. Her major was Maternal and Child Health, and her research focused on HIV and AIDS prevention, treatment, epidemiology, and community & behavioral health. She is now looking forward to pursuing a Bachelor of Science in Aerospace Engineering with focus in Materials Science and Engineering from the University of Central Florida. She hopes to contribute to the design of materials with Aerospace applications intended to benefit the health and wellness of individuals during Aeronautical travel.

## Funding Opportunity

Funding is available for section activities that are of general interest to the membership. New activities, collaborations with other sections, and programming that advances diversity, equity, and inclusion are encouraged. Please reach out if you would like to plan a section event.

## E-Membership

The "e-Membership" membership option is available to aerospace professionals that have not previously joined the organization. Membership includes 1 year of free access to AIAA's electronic resources including Aerospace America Online and the Engage Community. Please share the following link with your friends and colleagues: <https://www.aiaa.org/emember/>

## Call for Volunteers

Additional officers and volunteers are needed to support our section activities during the 2020 – 2021 term. Opportunities to participate in event planning, STEM outreach, and leadership are available. Student members interested in gaining career experience are encouraged to apply. Members with all levels of interest and availability are encouraged to participate.

## Small Satellite Conference

The 34<sup>th</sup> annual Small Satellite conference Small Satellite Conference was held online last week. Webinars, talks, posters, and exhibits may be viewed for free at <https://www.smallsat.org/>. Among the highlights was the mission of the year award winner, Hyper-Angular Rainbow Polarimeter (HARP) built by the Earth and Space Institute at UMBC and the Space Dynamics Lab at Utah State University.

## Presidential Management Fellowship

The Presidential Management Fellows (PMF) Class of 2021 application window will open on 9/30/20 and close on 10/14/20. Current graduate students and recent graduates with advanced degrees are encouraged to apply. Program and application information can be found at <https://www.pmf.gov/>

## Support Local STEM Activities

- AIAA GNO supports membership participation in local science fairs and STEM outreach activities. Contact Jace Boudreaux at [jace.boudreaux@gmail.com](mailto:jace.boudreaux@gmail.com) to join the science fair working group.
- Support the FIRST Robotics Competition More than 200 student teams are registered in our region for the 2020-2021 season, volunteers are needed <https://www.firstinspires.org/>
- The Greater New Orleans Science and Engineering Fair is planned for February 22-25, 2021 at Tulane University. Professional members are requested to judge student projects. See the following link for more information on GNOSEF: <https://gnosef.tulane.edu/>

## Congratulations to SpaceX

The Crew Dragon spacecraft *Endeavour* returned safely to Earth on August 2<sup>nd</sup> successfully completing the Crew Dragon Demo-2 mission. The spacecraft transported NASA astronauts Douglas Hurley and Robert Behnken to the International Space Station. The mission marks the first crewed flight to be launched in the United States since the last flight of the Space Shuttle *Atlantis* in 2011.

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