SD Mines News
South Dakota School of Mines & Technology
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FOR IMMEDIATE RELEASE

SD Mines Team Preps for Launch with the National Eclipse Ballooning Project

RAPID CITY, SD (August 15, 2017) – A team of students from the South Dakota School of Mines & Technology and area high schools lead by Peggy Norris, Ph.D., the deputy director of education and outreach at the Sanford Underground Research Facility (SURF), will launch a high-altitude balloon on Aug. 21 as part of a nationwide, NASA-sponsored project to livestream aerial video footage of the "Great American Eclipse."

The project, funded in part by the South Dakota Space Grant Consortium and NASA, plans to launch an eight-foot-tall, helium-filled balloon, carrying a video camera, scientific experiments, and other equipment to an altitude of about 100,000 feet, at 10:45 a.m. from an area near the town of Mitchell, Nebraska. The launch site could change depending on wind direction and weather patterns. The team is aiming to have the balloon at the proper height and location during the total eclipse over the Nebraska Panhandle set to occur about 10 minutes before noon. During the eclipse, the moon will entirely block the sun for approximately two minutes.

The team is preparing the South Dakota Eclipse Balloon Project payload which includes a number of experiments and equipment: a radiation detector to help determine the flux of cosmic rays in the upper atmosphere during the eclipse – a similar detector will also be run on the ground; a light detector to determine the amount of light reduction during the eclipse; a thin strip of on-board bacteria that will be sent to NASA labs after the flight for testing; a GPS tracking system; and two separate cameras, one with live footage showing the eclipse from high altitude another with recorded footage for later use. The live footage is available for public viewing on NASA's website, http://nasa.gov. Once the eclipse has passed, the balloon will pop and the payload will parachute to Earth where a chase team will recover it.

"We're high school and college students doing real science for NASA and the scientific community. We're able to do it on a fairly limited budget and with the resources we have, which is really exciting," says Dakotah Rusley a computer engineering senior at SD Mines. Rusley interned at NASA before receiving a full-time job offer there. "It's exciting to take something that not everybody can be there to physically see and allow them to be a part of it using technology," says Gina Bestgen a recent mechanical engineering graduate from SD Mines. "Best

seats in the house are at 100,000 feet," adds Zachary Christy, a computer engineering senior at SD Mines.

The South Dakota Eclipse Ballooning Project is one of 55 teams from across the country that will livestream footage of the total solar eclipse. The NASA-sponsored project has been years in the making. "There has been nothing like this big balloon effort before," says Norris. "I see this as a way to bring high school kids and university students together as a big collaborative team, which is how science is done," she says.

For more information, visit NASA at: https://eclipse2017.nasa.gov/eclipse-ballooning-project

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About SD Mines
Founded in 1885, the South Dakota School of Mines & Technology is a science and engineering research university located in Rapid City, S.D., offering bachelor's, master's and doctoral degrees. The university enrolls 2,859 students with a student-to-faculty ratio of 15:1. The SD School of Mines placement rate for graduates is 96 percent, with an average starting salary of $63,000. Find us online at www.sdsmt.edu and on Facebook and Twitter.