



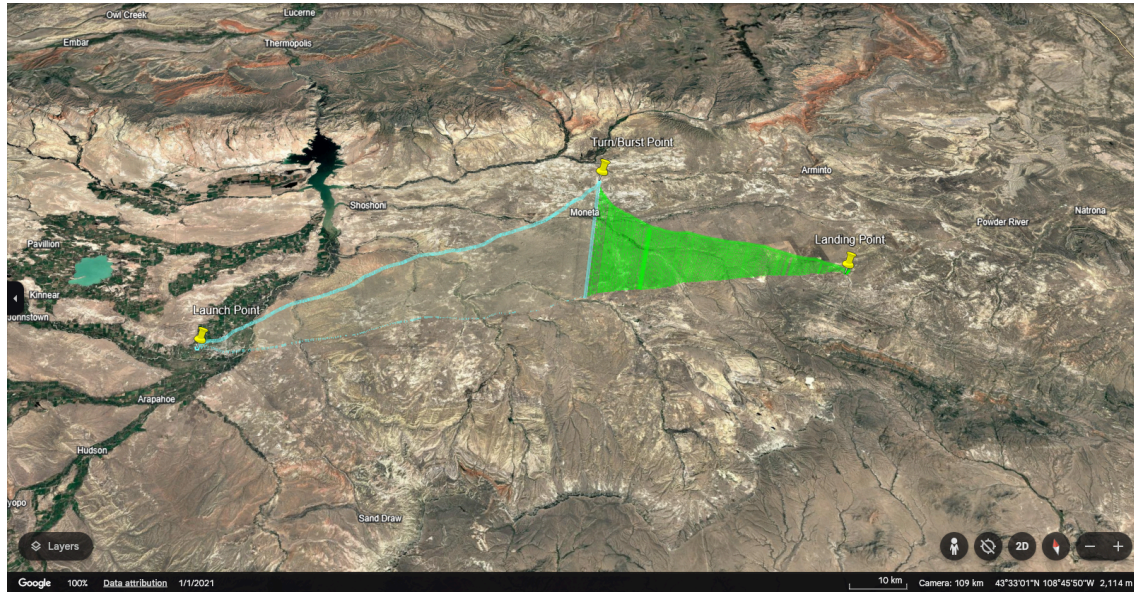
High Altitude Ballooning at CWC

Dr. Kate Patterson, Associate Professor of Mathematics, and Dr. Bill Finney, Professor of Chemistry and Physics, are leading a team of six students in a project following their adventures with the Nationwide Eclipse Ballooning Project in 2023 and 2024, where they and their students flew balloons during eclipses to investigate gravity waves. These ballooning projects provide us with the opportunity to engage students whose interests lie in the physical sciences and engineering, in hands-on learning that gets them out of the classroom, applying the material they often

learn in the classroom in a siloed environment, and learning about the world around them.



This spring's campaign, in which they have completed two of at least three anticipated flights, occurs during the solar maximum - the most active part of the 11-year cycle of solar activity. The hope is to observe a Forebush decrease, a reduction in the galactic radiation background caused by a coronal mass ejection (CME). A flight on April 7 was conducted to measure the typical pre-CME radiation levels.



April 7th Flight Path



April 7th payload recovery



April 7th payload recovery

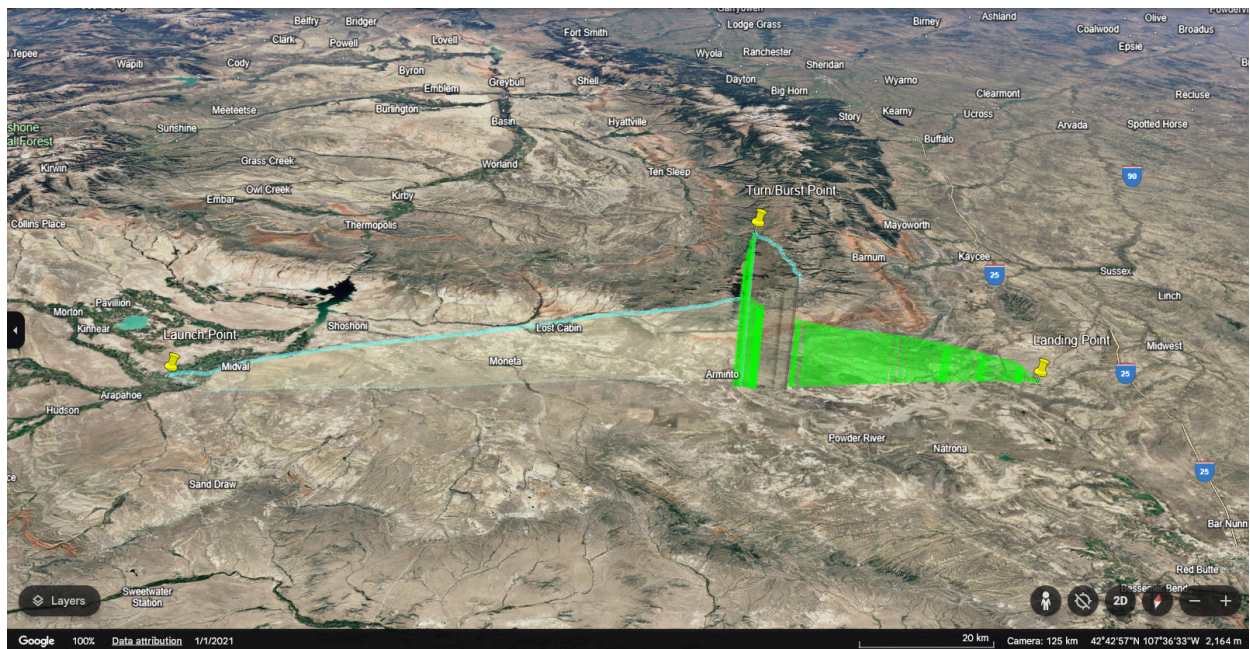
The second flight was conducted on April 16, during a cannibal CME - where a second CME catches up to the initial CME and overtakes it. That flight took our balloon to 101,722 feet and landed about 20 miles west of Midwest, Wyoming. CWC is one of about twenty schools across the country participating in this follow-up project.



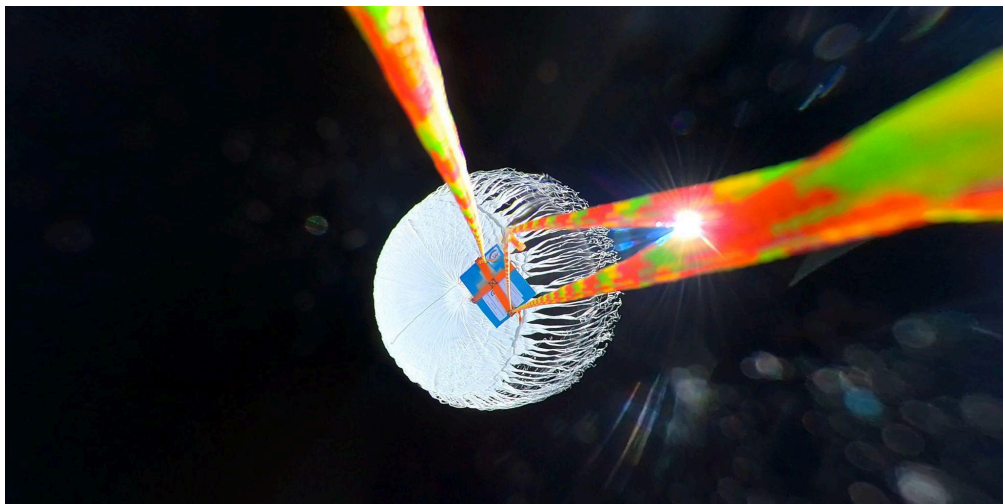
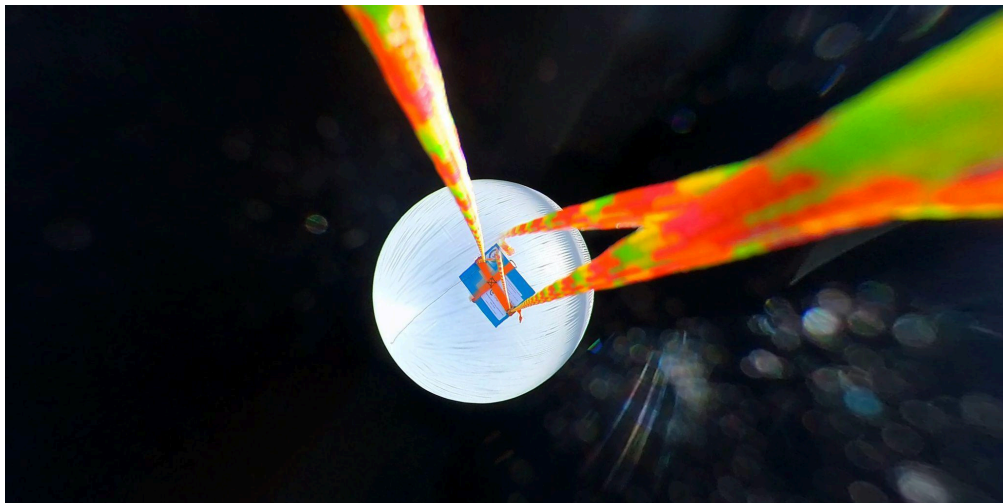
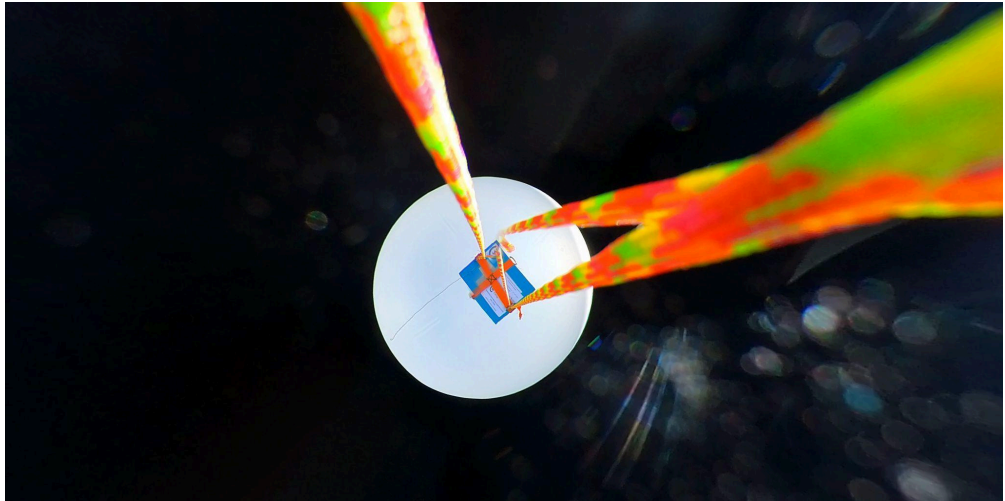
April 16th launch



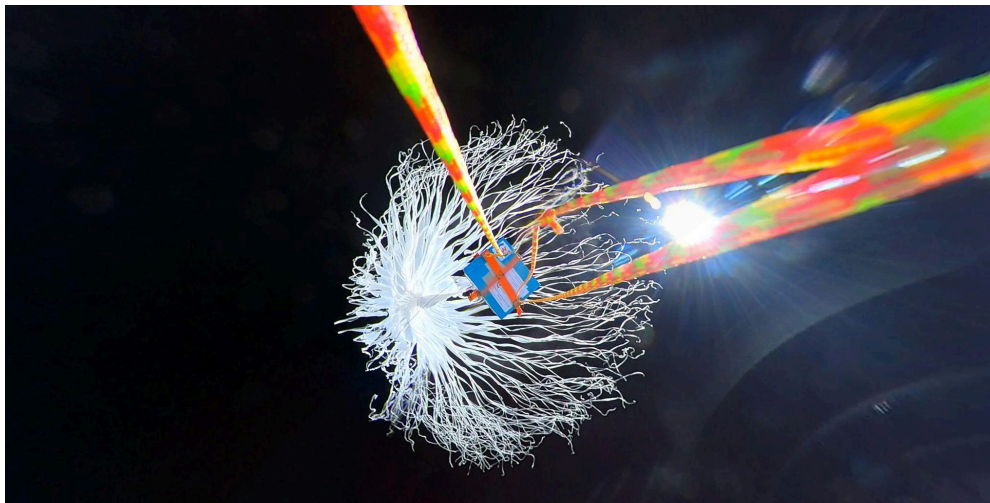
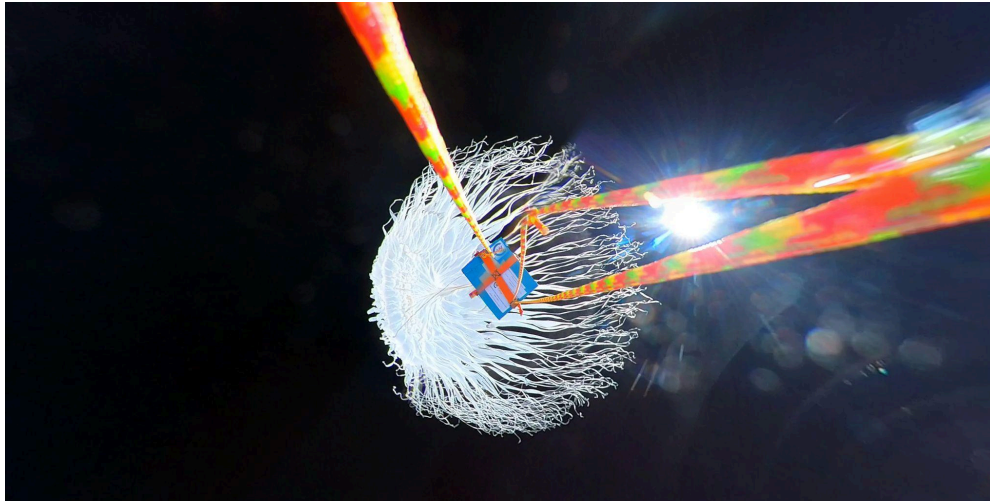
April 16th Launch



April 16th flight path

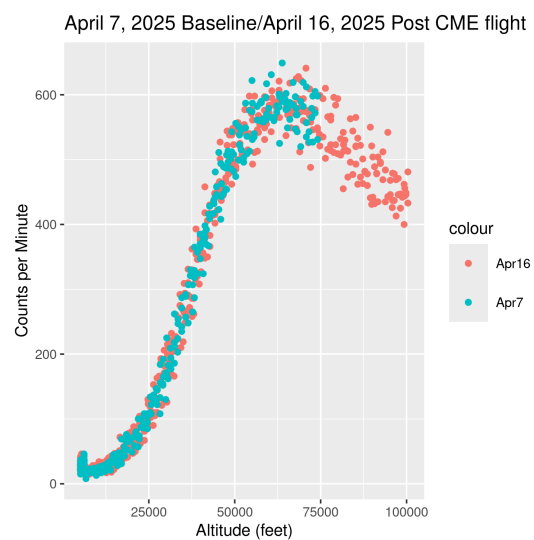


101,722 feet



101,722 feet

The graph to the right shows the “events” seen by the radiation monitors during our flights. These “events” are caused when a cosmic ray is detected by our radiation monitors. While we have not yet observed a Forbush decrease, our observations are in line with those seen by others who made observations during the April 16 CME. A poster with preliminary results was displayed at the Undergraduate Research and Inquiry Across the Disciplines (URID) conference at the University of Wyoming.



We encourage everyone to visit <https://www.youtube.com/@CWC-NEBP>, where you can watch 360-degree videos taken during our balloon flights!

This work was supported in part by the Nationwide Eclipse Ballooning Project, which is funded by the NASA Science Activation program and NASA Space Grant, award number 80NSSC23M0003, and by the Wyoming NASA Space Grant Consortium, NASA Grant #80NSSC20M0113. While this funding will end this May, we are hopeful and planning to continue this work in the near future. Patterson and Finney have plans to investigate using balloons heated by sunlight - eliminating the cost of helium and potentially allowing the balloon to remain at altitude for much longer periods of time. Towards this end, and to promote safety in the National Airspace System, we are working to obtain an aircraft registration number (N-number) that will allow us to use a recently acquired ADS-B OUT transponder in our balloon's payload. This will make our balloon visible to both pilots and air traffic control.

CWC Mathematics Department

April 11th and 12th, Mike Bostick, Melena Osborne, Kate Patterson, and Brian Shultz attended the Wyoming Math/Statistics Articulation and Wyoming Mathematical Association of Two-Year Colleges meeting at the University of Wyoming. This annual meeting promotes collaboration across the seven community colleges and the university and is an opportunity to share and celebrate innovation and successes as well as troubleshoot challenges.

CWC Nursing Department

Amy Hernandez, Liz Oliver, and Michelle Westman will attend the Wyoming Nurse Educator Summit May 19-20. Amy Hernandez is chair of the statewide ReNEW Curriculum and Evaluation committee and will present what we have accomplished this past year statewide.



Amy Hernandez represented CWC and Wyoming Nurses Association (WNA) with a City of Riverton Mayoral Proclamation on Tuesday, May 6. In the picture, to support Nurses Week are Amy, former employee Paula Kihn, and 1st year nursing students Aiyiana Moss and Gabby Ward.