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CHALLENGES AND SUCCESSES OF STEM ENGAGEMENT OF APOLLO 50TH ANNIVERSARY  
EVENTS FOR A POST-APOLLO AUDIENCE

**Abstract**

The author has been deeply involved in education and public outreach events associated with the 50th Anniversary of NASA's Apollo missions (particularly Apollo 11, but also including Apollo 8) as a participant, planner, and audience member. However, there are multiple challenges in providing public engagement opportunities for an event that is now seen, for a majority of the population, as history rather than memory. Science, Technology, Engineering and Mathematics (STEM) engagement efforts for K-12 and college campus audiences must now consider that it is not only these audiences, but their parents as well, who are too young to remember the Apollo "Moon Shot" missions of 1968-1972. However, the Apollo 11 moon landing remains a critical historical event not only for the memories of specific individuals, but from a broader cultural and social context for the general public.

The development of Apollo 11 anniversary activities also draws on the author's observational experience of the Total Solar Eclipse across the United States in August, 2017. Although STEM educators and NASA public engagement efforts (including the NASA Space Grant College and Fellowship program) spent multiple years in planning education, research, and local program activity events for the eclipse transit, public awareness cannot be said to focus as uniquely or intensely on even such a major astronomical event until relatively soon before the event. An important lesson can be drawn from such experiences that can be generalized to many STEM engagement efforts: the focus and enthusiasm for the event by STEM professionals will not likely be matched by the public until it is too late to start the planning effort. In addition, some audiences will not be aware of the specific challenges and specific STEM constraints associated with engagement efforts.

This presentation includes general discussion of STEM engagement and public outreach activities conducted by organizations such as NASA Space Grant Consortia, as well as specific efforts associated with public enthusiasm and engagement associated with the Apollo 11 50th Anniversary celebrations. Lessons learned can be applied to a variety of STEM engagement efforts, including those with growing historical perspective and reflective capabilities. By contrast, the presentation will also address future STEM engagement planning needs for additional space-related events, such as the 2021 Total Solar Eclipse.