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Abstract for an Invited Paper for the APR21 Meeting of the American Physical Society

Dwight Nicholson Medal for Outreach (2020) MICHAEL BARNETT, Lawrence Berkeley National Laboratory

In 1986 a conference was held at Fermilab called the Conference on Teaching of Modern Physics. In attendance was an inspiring high school teacher, Fred Priebe, who was determined to have materials for teaching contemporary physics. They were not teaching what modern physicists were actually doing. Priebe made contact with Helen Quinn at SLAC. She in turn contacted me, because I worked in the international Particle Data Group, which summarizes particle physics. Fred and Helen inspired me to join them in projects that would allow us to share our excitement about physics with generations of students. My most recent (and successful) project has been the creation of a planetarium show called: Phantom of the Universe - The Hunt for Dark Matter. Multiple scenes could only work in a planetarium, and it is more dramatic than IMAX (it surrounds you). None of the many people involved had ever made a planetarium show before (involving a spherical screen). Because of the novelty of this for our team, we had to go to planetariums (in several countries) to see the work in progress. It also great fun to work for a day with Academy Award-winning team at Skywalker Sound. Our target audiences were students and the public. For most planetariums, school visits account for about half their audiences. We found that many planetariums had an interest in a dark matter show. They present our show for months at a time (unlike feature films). Planetariums have the perfect science-interested audience for us in the general public and K-12. Our show has now been seen in 22 languages in 67 countries in 550 planetariums. We never imagined such success as we developed the show.