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THE MOST EMPOWERING FORM OF SCIENCE ENGAGEMENT: PLAY

Abstract

Space exploration should be disruptively accessible – empowering people from a variety of different backgrounds to explore, participate in, and build new ways of interacting with and contributing to it. There has been a considerable movement in the last several years to make science more open between scientific disciplines and to the perceived "public". But simply making science open – by placing datasets, research, and materials online – is only half the battle. Open is not the same as accessible. It's not until someone builds interfaces to these materials that they truly become accessible and allow for hundreds of thousands of people to actively contribute to scientific discovery.

Science Hack Day, an open grassroots movement in over 25 countries, aims to change adult's relationship with science: from one of observation to one of active contribution and participation. Since 2010, Science Hack Day has been gathering artists, coders, researchers, lawyers, writers and people from all disciplines together in the same physical space to see what they can collaboratively prototype with science in 24 consecutive hours. Just as science fiction has often shown the way to future inventions, the act of hacking is now generating prototypes that act as footholds for future explorations, discoveries and epiphanies in science. Through Science Hack Day, particle physicists team up with designers, marketers join forces with rocket scientists, writers collaborate with molecular biologists, developers partner with astrophysicists, and so on. Leagues of science hackers are mashing up ideas, mediums, industries and people to create crude yet clever creations that make a profound impact in space exploration and how it's done. Giving adults the opportunity and permission to play with science is quickly becoming the most empowering form of science engagement.

The space industry suffers in immeasurable ways from not recognizing the potential of actively working with people outside of the space community. By having a fresh set of eyes from those who solve different types of problems across a variety of industries, new concepts often emerge and go on to influence scientific processes, communication and discoveries in unexpected ways.

From the collisions of subatomic particles to the explosions of supernovas, this presentation takes you on a trip through the weird, whimsical and fun inventions that have emerged from multidisciplinary collaborations, and how they may serve as inspiration for innovation in space exploration and outreach.