



# Dupont Summit 2016

*Science, Technology, and Environmental Policy*

December 2, Historic Whittemore House, Washington, DC

## **Philosophical Society of Washington Lecture “Particles and the Nature of Nothing”**

I will give a crash course on particle physics, collider experiments, and quantum field theory. I will show that on the cutting edge of particle physics is the search for the description of the vacuum of spacetime and the nature of the laws of physics. Particle colliders are one of a handful of ways to explore these laws, and the worlds largest, the Large Hadron Collider (LHC) outside of Geneva, Switzerland, will have collected unprecedented amounts of data by the time of this lecture, revealing answers – and undoubtedly bigger questions – about the nature of reality. The previous run of the LHC revealed the Higgs Boson particle. I will explain its significance, its impact on the field, and the justification for featuring it in a documentary film. I will also tell a joke that, at best, physicists will find amusing.

*Lecturer*  
David Kaplan, *Johns Hopkins University*

PSO