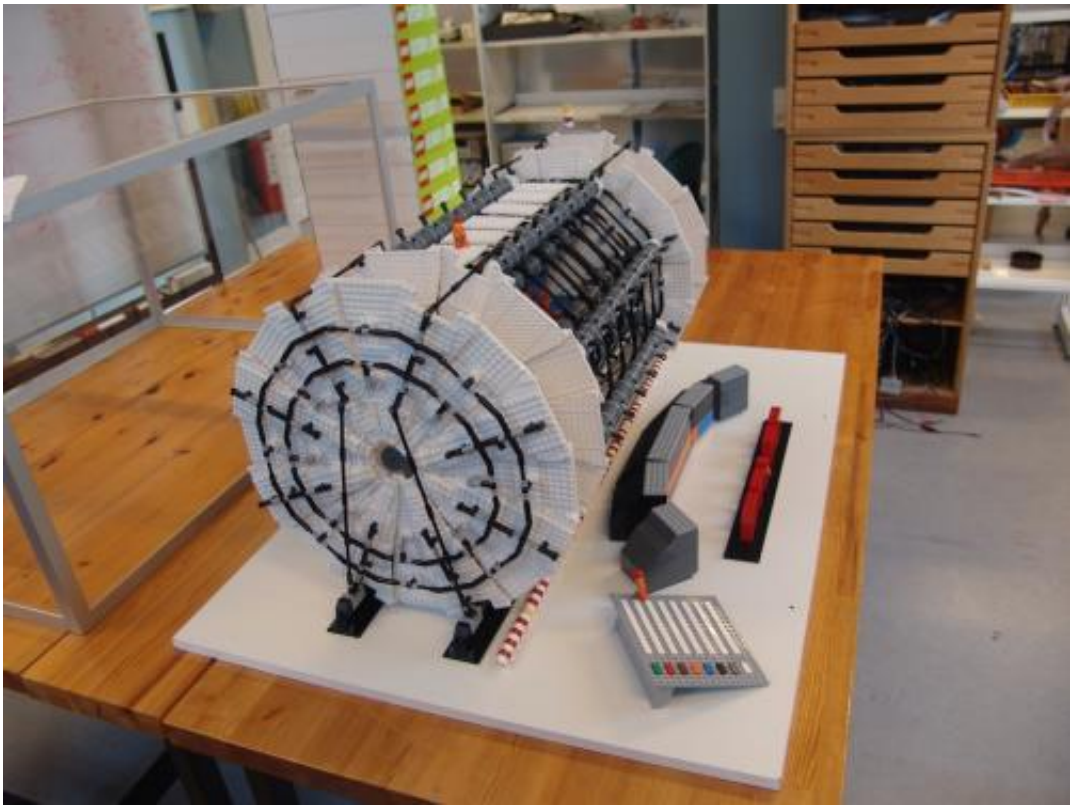
Physicist creates scale model of LHC ATLAS experiment of out LEGO blocks

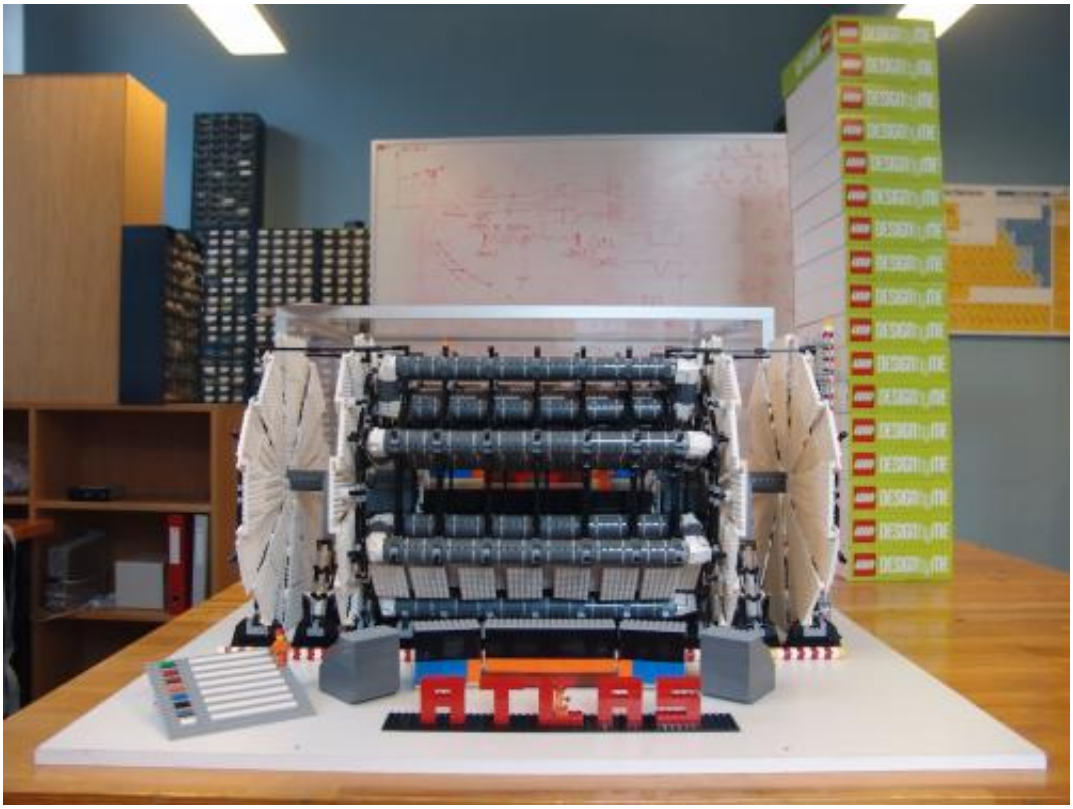
December 30 2011, by Bob Yirka



(PhysOrg.com) -- The Large Hadron Collider at the European Organization for Nuclear Research (CERN) in Switzerland has generated a lot of news of late, e.g. the announcement that a team had found what it believes to be a particle that traveled faster than he speed of light, an actual new particle, and of course the seemingly never-

ending storyline associated with the hopeful discovery of the elusive Higgs Boson, now a physicist not associated with the project, has built a scale model replica of the ATLAS experiment; a particle detector that will likely serve as ground zero should the so-called “god particle” ever be observed.

The project, as described by its builder, Sasha Mehlhase, a physicist with the Niels Bohr Institute took almost thirty five hours to build and cost two thousand Euros (paid for by the high energy physics group at the university). The point of building the replica, he says, is to incite interest in physics. Plus, no doubt, it was sort of fun.



The Large Hadron Collider is a type of cyclotron, or particle accelerator. It's hollow and circular, sort of like a giant hula-hoop and sits underground where particles are made to run faster and faster inside of it using very powerful magnets. The ATLAS experiment sits at one point on the circle and allows researchers the ability to watch as particles go whizzing by. The hope is that in observing particles moving at high speeds or when they collide, that new discoveries about the nature of the universe will be made.

The real ATLAS project is 44 meters long and 22 meters wide and weighs 7000 tonnes. Mehlhase's model, at approximately 1:50 scale is approximately 1 meter long by a half meter wide. And while the real deal has millions of parts, the model has 9500 pieces, mostly LEGO blocks.

Mehlhase first tried to model the ATLAS on computer, but then apparently found the undertaking untenable. Abandoning that approach, he set to work replicating the ATLAS by simply mimicking what it looked like. His wife and some students helped sort the blocks, but he alone assembled the model, which he says he tried to model as closely as one could using simple plastic bricks. To give some perspective, he modeled some tiny physicists as well.

Mehlhase says he's contacted LEGO (a Danish company) in hopes of having his model included as one of the model kits sold by the company, though he hasn't yet made a manual. He'd like to see similar models constructed in schools all over the world.

The finished product, an obvious labor of love, is now on display at the Institute.

More information: sascha.mehlhase.info/physics.php?open=atlaslego