# Highlights from our blog

## A slide that captures the future(s) of particle physics

July 30, 2010


Of the estimated 10,000 slides shown at the International Conference on High Energy Physics, a few stand out as likely to stick around for a while. One may be the first slide ever that lists all known future projects in high-energy physics around the world, along with their states of readiness.

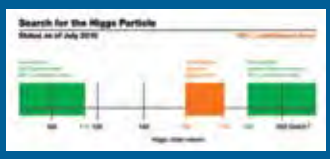
## Lighting up the dark universe

July 28, 2010

An experiment doesn't have to be exotic to explore the unexplained. At the International Conference on High Energy Physics, scientists unveiled the first results from the GammeV-CHASE experiment, which used 30 hours' worth of data from a 10-meter-long experiment to place the world's best limits on the existence of dark energy particles.

## New limits on Higgs mass announced

July 26, 2010




Scientists at Fermilab's Tevatron collider have ruled out a significant range of possible masses for the Higgs boson, narrowing the search for what is probably the world's most famous particle. The Higgs is thought to give all other particles their masses.

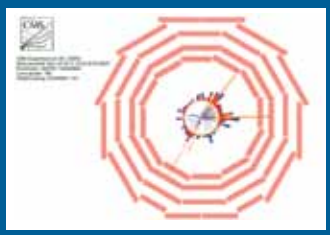
## LHC results: Not just the same old thing

July 26, 2010

While the Large Hadron Collider experiments may be measuring particles whose existence has already been proven, they are making those measurements at an energy 3.5 times higher than ever before. This provides new, useful information to the physics community, including input for theoretical models that are continually refined to more accurately reflect the way the universe works and predict where new particles may be hiding.

## Europe reaches the top, err, the top reaches Europe

July 23, 2010



It might be a long way to the top, but the LHC experiments are already halfway there: CMS and ATLAS presented their first candidates for the rediscovery of the top quark, the heaviest particle in the Standard Model, which first showed up in Fermilab experiments in 1995.

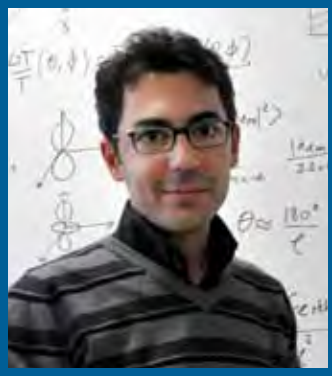
## The ILC in one minute flat

July 22, 2010

The folks working on the proposed International Linear Collider have created a one-minute animation that flies you through its 30-kilometer-long tunnel. It has no sound, but the visuals speak for themselves.

## People in physics: Listening to the universe with Amedeo Balbi

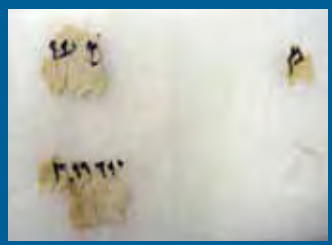
July 12, 2010



Amedeo Balbi, researcher at the University of Rome "Tor Vergata," is one of the rare scientists with a gift for explaining his research to a non-expert public. He studies the Cosmic Microwave Background, the fossil radiation from the big bang.

## Protons crack a Dead Sea Scroll secret

July 6, 2010



INFN researchers who probed tiny pieces of a Dead Sea Scroll with protons found that its chemistry matches the chemistry of the water in the area where the ancient document was found, supporting the idea that it was made locally.

**Read the full text of these stories and more at www.symmetrymagazine.org/blog/aug2010**

## SLAC's new X-ray laser peels and cores atoms

July 2, 2010

The first published scientific results from the world's most powerful X-ray laser show its unique ability to control the behaviors of individual electrons within simple atoms and molecules by stripping them away, one by one—in some cases creating hollow atoms.

## World Cup fever at CERN

July 2, 2010

During the past few weeks, national pride has hit a high, with the World Cup football (soccer) competition in full swing. Save for the Olympics, it is the only sporting event where everyone at CERN has a home team to cheer for.

## CERN opens dazzling new public exhibition

June 30, 2010

It's like stepping into a science fiction film: Eerie blue and green lighting; spherical white chairs with black cushions; touch-operated computer information stations; a full-wall projection of stars and galaxies; and a calming voice coming over a loudspeaker and asking, "Why are we here?"

## CMS exotica hotline leads hunt for exotic particles

June 24, 2010

Exotic physics is the physics that breaks rules and defies expectations. This is the domain of the unstable and excited, the string balls, black holes, and extra dimensions. The CMS exotica group is devoted to seeking out these events, and the hotline supports their search.

## MiniBooNE results suggest antineutrinos act differently

June 18, 2010

The MiniBooNE experiment has found that antineutrinos, which should follow the same rules as neutrinos, might oscillate in a slightly different way. The results seem to favor a much-debated antineutrino result obtained by the Liquid Scintillator Neutrino Detector experiment in 1990.

## Three nerds walk into a bar…

June 15, 2010

Forty-odd Chicagoans gathered in a bar, not to watch the Blackhawks in the Stanley Cup finals but to hear Jason St. John talk about particle colliders, the Standard Model, and how the Large Hadron Collider won't be the end of us all. It was Chicago's inaugural Nerd Nite.

## Rewriting textbooks at the LHC

June 14, 2010

During the Physics at LHC conference, textbooks were being rewritten as physicists presented their remeasurements of data contained in the Particle Data Group booklet, which covers all existing and hypothetical particles. One theorist presented his prediction for a page from the 2016 version of the booklet.

## Could DZero result point to multiple Higgses?

June 4, 2010

Theorists say the discovery of a significant imbalance between the production of matter and antimatter during particle collisions at the Tevatron points to new physics at work—including the possibility that there may be five types of Higgs boson, rather than just one.