Astroparticle physicists draw up wish list

Astroparticle physicists in Europe have identified the top seven experimental facilities to build over the next 10 years. The projects, which are outlined in a new road-map drawn up by the ASPERA consortium of funding agencies, are currently at the design stage and would cost up to €1.5bn to build.

The most advanced of the road-map's seven priority projects is the KM3 neutrino detector, which, if built, would cost €250m and involve up to 1 km³ of the Mediterranean Sea being used as a scintillator. It has already received preliminary funding from the European Union (EU) and three test facilities are being built off the coasts of France,

Greece and Sicily in Italy.

Four of the other projects are currently seeking design-stage funding from the EU. They include EURECA, a €100m dark-matter detector, and the €150m Cherenkov Telescope Array, a gamma-ray detector with components in the northern and southern hemispheres. The other two projects seeking design cash are a €500m underground neutrino detector called LAGUNA, which would also look for proton decay, and a €300m third-generation underground gravitational-wave detector. The road-map also recommends that Europe should help fund the Auger North cosmic-ray detector in Colorado and collaborate in

Confident about securing funding Stavros Katsanevas.

experiments to study the rare process of neutrinoless double-beta decay.

It is far from clear, however, if any of these projects will go ahead. Building them within the next decade would require ASPERA's members to double their funding of astroparticle physics, which is currently about €135m per year. However, ASPERA co-ordinator Stavros Katsanevas from the CNRS in Paris is confident that all seven projects can be built through careful prioritization and by collaborating with funding agencies outside of Europe.

Researchers plan to revise the road-map at a meeting in Amsterdam next month, at which representatives from funding agencies in US, China and Japan will be present to discuss potential collaborations. A third and final version of the road-map is expected in late 2008.

Hamish Johnston

A massive challenge

There's nothing like a bit of David versus Goliath rivalry to spice up a story, even when that David is in fact a very influential organization. The rivalry in this case stems from the race to discover the Higgs boson – the particle believed to endow all other particles with mass – which is being captured in a new film entitled *The Atom Smashers*. Being made by the non-profit production company 137 Films, the movie goes behind the scenes at Fermilab near Chicago to reveal the last-ditch efforts of physicists working on the lab's ageing Tevatron accelerator to find the Higgs before the machine is switched off and the much more powerful Large Hadron Collider at CERN on the Franco-Swiss border comes online. The film is currently being edited but there is still scope for the producers to add new scenes. They realize that while CERN remains the overwhelming favourite to bag the prize, the race isn't quite over yet.

● www.137films.org

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