

Hot tips for the Big Bang

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As the world waits for the start of the biggest physics experiment ever undertaken, the Institute of Physics (IOP)'s Chief Executive has taken a punt on three hot tips for what will happen after switch-on of the Large Hadron Collider (LHC) at CERN today.

Dr. Robert Kirby-Harris said, "The LHC will provide a unique opportunity for some of the world's best physicists to further our understanding of the universe and the fundamental forces that have shaped it.

"The whole physics community is looking forward to the switch-on tomorrow, first collisions later in the year, and then the gradual build-up of data that will provide answers to some of the big questions about our world. No-one knows exactly what new fields of knowledge the LHC will open up to us, but I am going to stick my neck out and make three predictions for the future.

1. "Experiments on the LHC will identify a whole new range of exciting challenges. As well as establishing the truth about the Higgs particle and testing the current standard model, the LHC will undoubtedly open up new questions and pose new challenges to our understanding of the fundamental nature of our world.

2. "The technological payback will be huge. The need to deal with the vast quantities of data which the LHC will produce has already resulted in new grid technology to increase storage and processing capacity, and improve the capacity of the internet to carry more and more data.

Advances in IT, detector technology and other engineering developments made for the LHC will readily transfer across to our every day lives – just as, once upon a time, the internet did.

3. “There will be a Big Bang boost for physics education. I am absolutely delighted by the volume of media coverage that the LHC has obtained. It has clearly demonstrated the health of physics internationally and in the UK, and has effectively conveyed the excitement and the challenges still to be met. I have no doubt that this will encourage more school students to study physics – exactly what the UK needs to maintain a vibrant future for this subject which is vital to our aspirations for a knowledge-led economy.

“And just for the avoidance of doubt, I don’t predict the world will end tomorrow!

“More seriously, the LHC is a wonderful example of the effectiveness of international collaboration in addressing a complex intellectual challenge. It would be excellent to see a similar international collaboration to address the crucial practical challenge of climate change”

Provided by IOP

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