

ICHEP 2010

LHC results top the bill in Paris

More than 1100 physicists gathered in the Palais des Congrès conference centre in Paris on 22–28 July to attend the 35th International Conference on High Energy Physics (ICHEP), the world's largest conference on particle physics. As the first meeting in the series to announce results from the LHC, it caught the attention not only of physicists but also of media around the world and the president of the host country, France.

President Nicolas Sarkozy, addressed the conference on 26 July, at the official opening of the plenary sessions. In a spirited speech, he exhorted the particle-physics community to continue its quest to understand the nature of the universe, and stated his belief that investment in fundamental research is critical for the progress of mankind.

News from the LHC experiments had already reached the physicists during the three days of parallel sessions with which the ICHEP meetings traditionally begin. One of the items of breaking news from the ATLAS and CMS experiments was the first observation of top quark candidates at the LHC. The top, the heaviest elementary particle observed to date, has so far been produced only at Fermilab's Tevatron collider in the US.

Another hotly anticipated presentation at ICHEP concerned the CDF and DØ experiments at the Tevatron. The two experiments have not yet spotted the Higgs boson but have further limited the territory in which it may be hiding. So, the Higgs is still out there waiting to be found, and the LHC experiments have shown at ICHEP that they are well on the way to joining the hunt.

With their first measurements the LHC experiments are rediscovering the particles that lie at the heart of the Standard Model – an essential step before moving on to



At the press conference on 26 July, from left to right: Guy Wormser, chair of the local organization committee of the ICHEP conference and director of the Laboratoire de l'Accélérateur Linéaire, Orsay; Rolf Heuer, director-general of CERN; Mel Shochet of the University of Chicago, chair of the US High-Energy Physics Advisory Panel; Atsuto Suzuki, director-general of KEK and chair of the International Committee for Future Accelerators. (Photos courtesy T Pritchard.)

make discoveries. The quality of the results presented at ICHEP bears witness both to the excellent performance of the LHC and to the high quality of the data in the experiments. The LHC, which is still in its early days, is making steady progress towards its ultimate operating conditions. By the time of the conference, the luminosity had already risen by a factor of more than a thousand since the end of March – and has since risen further still (p8).

The rapid progress with commissioning the LHC beam has been matched by the speed with which the data on billions of collisions have been processed by the Worldwide LHC Computing Grid. This allows data from the experiments to be analysed at collaborating centres around the world, resulting in a truly international experience.

● A feature-length report on ICHEP 2010 will



President Sarkozy opened the conference.

appear in a future edition of the *CERN Courier*. For details on all of the talks, see www.ichep2010.fr.

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