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LOCAL NEWS

## God Particle discovery hailed

Fifty years and R102 billion later, scientists yesterday revealed the discovery of the so-called "God Particle".

04 July 2012 | MUSA MOHAMED

★★★★★

JOHANNESBURG - And South African scientists formed part of the team that helped to make what could be one of the most important scientific discoveries of all time.

"This is the missing particle in the puzzle of the Standard Model of particle physics. It gives mass to other particles and is responsible for things having mass," University of Cape Town physicist Andrew Hamilton said yesterday.

Hamilton is one of six South African scientists who took part in the international collaboration to find the elusive Higgs boson particle, as it is more properly known.

The discovery was announced in Geneva Switzerland.

The existence of the Higgs boson was theorised for 50 years, but it took the building of the R102 billion Large Hadron Collider in Switzerland to confirm its existence.

Despite its popular name, this groundbreaking discovery has nothing to do with faith, religion or the existence or not of a higher being, Hamilton said.

"The discovery of this particle means we now know more about the physical world," he said.

Hamilton was part of a team at the European Centre for Nuclear Research that also included scientists from other SA universities, including Wits, the University of Johannesburg and University of KwaZulu-Natal.

The particle's discovery could shed light on the primordial state of matter shortly after the Big Bang, and on dark matter and dark energy.

"Investment in basic science is a fundamental characteristic of any future knowledge economy and we are proud of this international association that puts South Africa on the map," João Rodrigues, head of the Wits school of physics, said yesterday.

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- The Higgs is the last missing piece of the Standard Model, the theory that describes the basic building blocks of the universe.

The other 11 particles predicted by the model have been found and finding the Higgs would validate the model.

Ruling it out or finding something more exotic would force a rethink on how the universe is put together.

Scientists believe that in the first billionth of a second after the Big Bang, the universe was a gigantic soup of particles racing around at the speed of light without any mass to speak of.

It was through their interaction with the Higgs field that they gained mass and eventually formed the universe.

The Higgs field is a theoretical and invisible energy field that pervades the whole cosmos.

Some particles, like the photons that make up light, are not affected by it and therefore have no mass.

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God Particle

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