University of Birmingham

Dr Kostas Nikolopoulos

Birmingham Fellow

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About

Kostas Nikolopoulos is a particle physicist working on the ATLAS experiment at CERN.

Kostas' research is focused on the experimental study of electroweak symmetry breaking, which in the Standard Model (SM) of particle physics is connected to the appearance of the Higgs boson. He led the ATLAS H→ZZ group between October 2010 and October 2012, in the effort that resulted in the discovery of a SM-like Higgs boson. Currently, his research is focusing in the detailed study of the properties of the newly observed particle.

Qualifications

- PhD in Particle Physics, University of Athens, 2010

Biography

Kostas Nikolopoulos obtained his Ph.D. on the ATLAS experiment with the University of Athens (Greece) in 2010. His thesis was awarded Marc Virchaux Prize. Subsequently, he joined the Brookhaven National Laboratory (USA) as a post-doctoral research associate, and since 2012 he joined the University of Birmingham as a Birmingham Fellow

Since October 2010, he is leading the ATLAS H→ZZ group, consisting of approximately 100 physicists working in the search for the Higgs boson in the decay channels involving Z bosons. His term of office was exceptionally extended for an additional year in October 2011.

Teaching

- MPAGS Course: "Higgs Boson Physics"

Postgraduate supervision

Currently working with PhD students on the ATLAS experiment at CERN.

Research

Research themes

- Search for the Standard Model Higgs boson in the decays through two Z bosons, H→ZZ

Research Activity

- ATLAS experiment at CERN

Other activities

Outreach; including the "Higgs boson and beyond" exhibit at the Royal Society Science Exhibition in 2014.

Publications

Recent Publications (selected):

1. ATLAS Collaboration (2014), Measurement of the Higgs boson mass from the $H → γγ$ and $H → ZZ^{(*)} → 4l$ channels with the ATLAS detector at the LHC, submitted to Phys. Rev. D.
2. ATLAS Collaboration (2013), Measurements of Higgs production and couplings using diboson final states with the ATLAS detector at the LHC, Phys. Lett. B 726 88-119.
3. ATLAS Collaboration (2013), Evidence for the spin-0 nature of the Higgs boson using ATLAS data, Phys. Lett. B 726 120-144.
4. ATLAS Collaboration (2012),Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC, Phys. Lett. B716 1-29.
5. ATLAS Collaboration (2012), Combined search for the Standard Model Higgs boson using up to 4.9 fb^{-1} of pp collision data at $\sqrt{s}$ = 7 TeV with the ATLAS detector at the LHC, Phys. Lett. B710 49-66.
6. ATLAS Collaboration (2012), Search for the Standard Model Higgs boson in the decay channel H→ $ZZ^{(*)}$ → 4l with 4.8 fb^{-1} of pp collisions at $\sqrt{s}$ = 7 TeV with ATLAS, Phys. Lett. B710 383-402.

7. ATLAS Collaboration (2012), Search for a heavy Standard Model Higgs boson in the channel H→ ZZ → llqq using the ATLAS detector, Phys. Lett. B707 27-45.
8. ATLAS Collaboration (2011), Search for the Standard Model Higgs boson in the decay channel H → ZZ $^{(*)}$ & → 4l with the ATLAS detector, ATLAS Collaboration, Phys. Lett. B705 435-451.
9. ATLAS Collaboration (2011), Search for a Standard Model Higgs boson in the mass range 200-600 GeV in the H → ZZ → llvv decay channel with the ATLAS Detector, Phys. Rev. Lett. 107 221802.
10. ATLAS Collaboration (2011), Limits on the production of the Standard Model Higgs Boson in pp collisions at √s = 7 TeV with the ATLAS detector, ATLAS Collaboration, Eur. Phys. J. C 71, 1728.

Expertise

Particle physics experiments; CERN; LHC; Higgs physics.

Alternative contact number available for this expert: **contact the press office (http://www.birmingham.ac.uk/news/contacts/index.aspx)**