



Contribution ID: 13

Type: Oral Presentation

## Constraining Beyond the Standard Model physics with the newly discovered Higgs boson with the ATLAS detector.

*Tuesday, 8 July 2014 15:20 (20 minutes)*

**Abstract content** (Max 300 words) [http://events.saip.org.za/getFile.py/?target=\\_blank](http://events.saip.org.za/getFile.py/?target=_blank) **Formatting & Special chars**

The discovery of the Higgs boson opens many perspectives to explore physics beyond the Standard Model. This talk describes the measurements and searches performed by the ATLAS experiment using the Higgs boson as a portal to search or constrain new physics.

A selected list of the presented searches include: Constraints on the existence of weakly interacting dark-matter particles through Higgs boson to invisible decays; upper limits of Flavour-Changing-Neutral-Currents in top quark decays and exclusion limits on the existence of Two Higgs Doublet Models. No significant signs of new physics were found in the data.

Limits, in some cases the world's most sensitive, are placed on the different searches.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD)?**

N/A

**Main supervisor (name and email) and his / her institution**

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**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

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**Session Classification:** NPRP

**Track Classification:** Track B - Nuclear, Particle and Radiation Physics