

Celebration of the discovery of the Higgs boson Anniversary from Africa

Monday 4 July 2022 - Monday 4 July 2022

Book of Abstracts

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African Physical Society

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Opening from the African Physical Society

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Review and Prospects of Higgs physics from ATLAS since the discovery

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Prof. Bill Murray was the ATLAS Higgs Convener in the run-up to Higgs discovery 2012 and then Physics Coordinator. More recently he has coordinated the ATLAS Tracking In Dense Environments group and is currently Higgs and Diboson Searches Convener. He also engages with future collider projects. The Warwick ATLAS Group, led by Prof. Bill Murray, have made substantial contributions to the ATLAS trigger and physics analysis and have held several coordination roles within the collaboration. A focus of the new appointment will be a substantial role in delivering aspects of Warwick's responsibilities for the ATLAS upgrade.

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Review and Prospects of Higgs physics from CMS since the discovery

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Professor Dr. Albert De Roeck is a senior research scientist and staff member at CERN and a professor at the University of Antwerp, Belgium. He obtained his Ph.D. at the University of Antwerp and then spent ten years at the German particle physics laboratory, DESY, where he and his team made very precise measurements of the quark and gluon structure of the proton, and performed precise tests of the strong force. To pursue his interest in discovering new physics at particle colliders, in particular supersymmetry and extra dimensions, he returned to CERN. During the last ten years, he has played a significant role in the preparation of one of the experiments at the LHC: the Compact Muon Solenoid (CMS). De Roeck is one of the leaders in the CMS physics program and was the deputy spokesperson of the experiment in 2010 and 2011. He is presently the convener of the Higgs search physics group.

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A High-Granularity Timing Detector (HGTD) for the Phase-II upgrade of the ATLAS detector

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A High-Granularity Timing Detector (HGTD) for the Phase-II upgrade of the ATLAS detector

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QCD background estimation for top-antitop resonances search in the lepton plus jets final state with the ATLAS experiment at the LHC

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**Performance of missing transverse momentum reconstruction:
muon-jets overlap removal**

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transfer, Outreach**