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Search for production of a Higgs boson and a top quark pair at CMS

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The discovery of a Higgs particle made by the CMS and ATLAS experiments at the Large Hadron Collider in 2012 was heralded as a significant advancement in our understanding of the fundamental world. In the post-discovery era, the task turned to characterizing this Higgs boson: to determine whether it is the particle predicted within the context of the standard model (SM) of particle physics – or is something altogether different. Essentially all measurements have thus far indicated that this Higgs boson is consistent with the predictions of the SM. However, one of the crucial characteristics that remains to be measured is the coupling strength between the Higgs boson and the top quark. The best opportunity for this measurement comes through the observation of production of a Higgs boson in association with a top quark pair (tH production). In this talk, the status of the tH campaign at CMS will be summarized covering results in all of the accessible decay channels.

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