

# Prof. Christopher S. Hill

3048 Physics Research Building  
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## Academic Appointments

- Professor of Physics, *The Ohio State University*, 2014–
- Associate Professor of Physics, *The Ohio State University*, 2010–2014
- Reader in Physics, *University of Bristol*, 2009–2010
- Senior Lecturer in Physics, *University of Bristol*, 2007–2009
- Lecturer in Physics, *University of Bristol*, 2006–2007
- Post-doctoral Research Fellow, *University of California at Santa Barbara*, 2001–2006

## Awards

- Fellow, *American Physical Society*, elected 2016
- LPC Distinguished Researcher, *Fermi National Accelerator Laboratory*, 2016

## Education

- Ph.D. in Physics, *University of California, Davis, USA*, 2001
- M.S. in Physics, *University of California, Davis, USA*, 1998
- A.B. in Physics and Philosophy, *Dartmouth College, USA*, 1994

## Research

I am an experimental high energy physicist. My research aims to understand the fundamental constituents of matter and their interactions. I am a leading member of one of the premier high energy physics experiments in the world, the CMS experiment, where I study the energy frontier with proton-proton collisions provided by the LHC at CERN (Geneva, Switzerland). On July 4, 2012 my collaborators and I announced the discovery of the Higgs boson, a new type of fundamental particle that is believed to be responsible for the origin of mass. This historic achievement received worldwide media attention. *Science* called this discovery “the breakthrough of the year” for 2012.

## Selected Professional Activities:

- US CMS HL-LHC Project Scientist (2016–)
- US CMS HL-LHC Tracker PM (2015–2016)
- CMS Deputy Physics Coordinator (2012–2014)

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- CMS Exotica group convener (2010–2012)
- CMS V+jets group convener (2008–2009)
- CDF Silicon Detector Project Leader (2001–2002)

## Recent Talks:

- “The Case and Plan for 3/ab”m SEARCH 2016 Workshop, Oxford, UK, Sep. 2, 2016.
- “Disappearing Tracks and other Tricky Experimental Signatures”, Perimeter Institute, Canada, Apr. 21, 2015.
- “Are we ready for LHC Run2?” ICTP, Trieste, Italy, Jun. 2014.
- “The Evolution of the LHC (and CMS)” Mitchell Workshop, Texas A&M, College Station, TX, May 2014.
- “The Evolution of the LHC Program”, APS DPF Meeting, Santa Cruz, CA, Aug. 2013.
- “The Hunt for the Higgs: Has the Origin of Mass Been Found?”, AAAS Meeting, Boston, MA, Feb, 2013.
- “New Results from CMS”, Kruger 2012, Kruger National Park, South Africa, Dec. 2012.
- “The Discovery of the Higgs Boson”, Colloquium, The Ohio State University, Columbus, OH, Aug. 2012.

## Selected Publications:

1. “*Observation of a new boson at a mass of 125 GeV with the CMS experiment at the LHC*” S. Chatrchyan *et al.* [CMS Collaboration]. Phys. Lett. B **716**, 30 (2012)
2. “*Looking for milli-charged particles with a new experiment at the LHC*” A. Haas, C. S. Hill, E. Izaguirre and I. Yavin. Phys. Lett. B **746**, 117 (2015)
3. “*Search for Displaced Supersymmetry in events with an electron and a muon with large impact parameters*” V. Khachatryan *et al.* [CMS Collaboration]. Phys. Rev. Lett. **114** 061801 (2015)
4. “*Search for disappearing tracks in proton-proton collisions at  $\sqrt{s} = 8$  TeV*” V. Khachatryan [CMS Collaboration]. JHEP **1501** 096 (2015)
5. “*Search for decays of stopped long-lived particles produced in proton-proton collisions at  $\sqrt{s} = 8$  TeV*” V. Khachatryan *et al.* [CMS Collaboration]. EPJC **75** 151 (2015)
6. “*Search for monotop signatures in proton-proton collisions at  $\sqrt{s} = 8$  TeV*” V. Khachatryan *et al.* [CMS Collaboration]. Phys. Rev. Lett. **114** 101801 (2015)
7. “*Beyond Simplified Models: Constraining Supersymmetry on Triangles*” A. Anandakrishnan and C. S. Hill. Phys. Lett. B **735** 412 (2014)
8. “*Searches for light- and heavy-flavour three-jet resonances in pp collisions at  $\sqrt{s} = 8$  TeV*” S. Chatrchyan *et al.* [CMS Collaboration]. Phys. Lett. B **730** 193 (2014)
9. “*Search for fractionally charged particles in pp collisions at  $\sqrt{s} = 7$  TeV*” S. Chatrchyan *et al.* [CMS Collaboration]. Phys. Rev. D. **87**, 092008 (2013)
10. “*Search for stopped long-lived particles produced in pp collisions at  $\sqrt{s} = 7$  TeV*” S. Chatrchyan *et al.* [CMS Collaboration]. JHEP **1208**, 026 (2012)
11. “*Search for charge-asymmetric production of  $W'$  bosons in top pair + jet events from pp collisions at  $\sqrt{s} = 7$  TeV*” S. Chatrchyan *et al.* [CMS Collaboration]. Phys. Lett. B **717**, 351 (2012)
12. “*Search for Stopped Gluinos in pp collisions at  $\sqrt{s} = 7$  TeV*” V. Khachatryan *et al.* [CMS Collaboration]. Phys. Rev. Lett. **106**, 011801 (2011)
13. “*Measurement of the Top Quark Mass in  $p\bar{p}$  Collisions at  $\sqrt{s} = 1.96$  TeV using the Decay Length Technique*” D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **75**, 071102(R) (2007)
14. “*A Method for Measurement of the Top Quark Mass using the Mean Decay Length of b-hadrons in  $t\bar{t}$  Events*” C. S. Hill, J. R. Incandela and J. M. Lamb, Phys. Rev. D **71**, 054029 (2005)