

# WALTER HOPKINS

13 Grand Rue, Ferney-Voltaire 01210, France  
 +33 6 87 28 51 63, [whopkins@uoregon.edu](mailto:whopkins@uoregon.edu)

## EDUCATION

- January 2013*     **Ph.D. in Physics**, Cornell University, Advisor: Julia Thom, Thesis: "Search for  $B_s \rightarrow \mu^+ \mu^-$  and  $B_d \rightarrow \mu^+ \mu^-$  Decays with  $10 \text{ fb}^{-1}$  of  $p\bar{p}$  Collisions"
- May 2010*     **M.S. in Physics**, Cornell University
- May 2007*     **B.S. in Physics and Applied Mathematics with Highest Honors**, Rochester Institute of Technology

## RESEARCH EXPERIENCE

- 2013-present*     **Postdoctoral Research Assistant with University of Oregon, ATLAS, CERN**
- Physics focused on searches for supersymmetric top partner decays into  $t\bar{f}$  (all-hadronic) and missing energy.
    - Coordinator of o-lepton stop analysis for first 13 TeV Run 2 analyses (ICHEP2016 and Moriond2017).
    - Created signal regions by reverse engineering BDT.
    - Developed new signal region for the o-lepton stop analysis based on  $20 \text{ fb}^{-1}$  of 8 TeV data using fat jet techniques.
  - Detector and upgrade studies focused on LAr calorimeter and the trigger/data acquisition system.
    - Helped commission LAr calorimeter Phase-I upgrade demonstrator module with Run 2 data.
    - Updated LAr calorimeter software for upgrade simulation.
    - Chapter editor of global feature extractor (gFEX, part of Phase-I trigger upgrade) final design report.
    - Studied various pileup suppression algorithms for use in the gFEX of the trigger and data acquisition system.
    - Contributed to LAr software development of conditions data needed for Run 2 and the Phase-I upgrade.
- 2009-2013*     **Graduate Research Assistant with Cornell University, CDF, FNAL**
- Thesis work on the search for rare  $B_{s,d} \rightarrow \mu^+ \mu^-$  decay at the Collider Detector at Fermilab (CDF) with  $10 \text{ fb}^{-1}$  of data.
  - Main analyzer of the analysis including study of an excess in the  $B_s$  mode.
- 2008-2009*     **Graduate Research Assistant, Wilson Laboratory, Cornell University**
- Constructed experimental setup for the x-Ray Beam Size Monitor (xBSM, a 32 channel one-dimensional photo diode) at the Cornell Electron-positron Storage Ring Test Accelerator (CESR-TA).
  - Developed data acquisition and processing software which read out electron bunch sizes at intervals of 14 ns and interfaced them to control room systems.

## HONORS AND AWARDS

- 2014-2015 U.S. ATLAS Scholars Award.
- 2009-2012 National Science Foundation Graduate Research Fellowship.
- 2007-2008 Cornell Sage Fellowship, a Diversity Fellowship awarded by Cornell University on a competitive basis.
- 2007 Rochester Institute of Technology Outstanding Undergraduate Scholar Award.
- 2003-2006 Rochester Institute of Technology Presidential Scholarship.

## CONFERENCE TALKS AND SEMINARS

- Fall 2016 **Direct Stop Searches at ATLAS**, Seminars at UC Davis, UC Santa Cruz, and Argonne National Laboratory
- June 2016 **Third generation SUSY searches at the LHC**, LHCP 2016, Lund, Sweden.
- February 2016 **Electronics Development for the ATLAS Liquid Argon Calorimeter Trigger and Readout for Future LHC Running**, Vienna Instrumentation Conference (VCI) 2016, Vienna, Austria.
- November 2011 **Rare B Meson Decays at the Tevatron**, Hadron Collider Physics (HCP) Symposium 2011, Paris, France.
- October 2011 **Search for  $B_{s,d} \rightarrow \mu^+ \mu^-$  Decays at CDF II**, Brookhaven Forum 2011, Brookhaven, NY.
- May 2011 **Rare B Meson Decays at the Tevatron**, Flavor Physics & CP Violation (FPCP) 2011, Maale Hachamisha, Israel.
- April 2010 **Tevatron:  $B_s \rightarrow \mu^+ \mu^-$** , Lattice QCD Meets Experiment Workshop 2010, Fermilab, Batavia, IL.
- November 2008 **CesrTA xBSM Update**, International Linear Collider Workshop 2008, Chicago, IL.

## SELECTED PUBLICATIONS

† indicates primary author, \* indicates internal reviewer

† T. Cohen, W. Hopkins, S. Majewski, B. Ostdiek, “Magnifying the ATLAS Stealth Stop Splinter: Impact of Spin Correlations and Finite Widths”, [submitted to JHEP](#).

† ATLAS Collaboration, “Search for a Scalar Partner of the Top Quark in the Jets+ $E_T^{\text{miss}}$  Final State at  $\sqrt{s} = 13$  TeV with the ATLAS detector”, [JHEP 12 \(2017\) 085](#).

† ATLAS Collaboration, “Search for the Supersymmetric Partner of the Top Quark in the Jets+ $E_T^{\text{miss}}$  Final State at  $\sqrt{s} = 13$  TeV”, [ATLAS-CONF-2016-077](#).

\* ATLAS Collaboration, “Measurement of the ZZ Production Cross Section in  $pp$  Collisions at  $\sqrt{s}=13$  TeV with the ATLAS Detector”, [Phys. Rev. Lett. 116, 101801 \(2016\)](#).

\* ATLAS Collaboration, “A search for R-parity violating scalar top decays in all-hadronic final states with the ATLAS detector in  $\sqrt{s}=8$  TeV pp collisions”, [JHEP 06 \(2016\) 0676](#).

\* ATLAS Collaboration, “Summary of the ATLAS experiment’s sensitivity to supersymmetry after LHC Run 1 - interpreted in the phenomenological MSSM”, [JHEP 10 134 \(2015\)](#).

† ATLAS Collaboration, “ATLAS Run 1 searches for direct pair production of third-generation squarks at the Large Hadron Collider”, [Eur. Phys. J. C75 \(2015\) 510](#).

† ATLAS Collaboration, “Search for direct pair production of the top squark in all-hadronic final states in proton-proton collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector”, [JHEP 09 \(2014\) 015](#).

† ATLAS Collaboration, “ATLAS Liquid Argon Calorimeter Phase-I Upgrade Technical Design Report”, [CERN-LHCC-2013-017](#).

† T. Aaltonen et al. (CDF Collaboration), “Search for  $B_s^0 \rightarrow \mu^+ \mu^-$  and  $B^0 \rightarrow \mu^+ \mu^-$  Decays with CDF II Full Data Set”, [Phys. Rev. D 87, 072003 \(2013\)](#).

† Walter Hopkins, “Rare B meson decays at the Tevatron”, Proceedings for HCP 2011, [arXiv:1201.4751v2 \[hep-ex\]](#).

† T. Aaltonen et al. (CDF Collaboration), “Search for  $B_s^0 \rightarrow \mu^+ \mu^-$  and  $B^0 \rightarrow \mu^+ \mu^-$  Decays with CDF II”, [Phys. Rev. Lett. 107, 191801 \(2011\)](#).

† Walter Hopkins, “Rare B meson decays at the Tevatron”, Proceedings for FPCP 2011, [arXiv:1108.6021v2 \[hep-ex\]](#).

† J.P Alexander et al., “CESRTA X-Ray Beam Size Monitor Design”, Proceedings of the 23rd Particle Accelerator Conference, May 2009, [“PACo9 Proceedings”](#).

† J.P Alexander et al., “First Results from the CESRTA X-Ray Beam Size Monitor”, Proceedings of the 23rd Particle Accelerator Conference, May 2009, [“PACo9 Proceedings”](#).

**TEACHING EXPERIENCE**

- Fall 2008* Teaching Assistant for Prof. Thomas Arias and Prof. Jeevak Parvia, Cornell University, Introductory Physics (Physics 102).
- Spring 2007* Teaching Assistant for Prof. Tracy Davis, Rochester Institute of Technology, University Physics II.
- 2004-2007* Physics Tutor at the Engineering Learning Center, Rochester Institute of Technology.

**ADDITIONAL SKILLS**

- Languages* ENGLISH · Fluent  
DUTCH · Fluent  
GERMAN · Fluent
- Programming Languages* Python · C++ · C