Curriculum Vitae

Antonio Boveia
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Appointments

THE OHIO STATE UNIVERSITY — August 2016–present

Assistant Professor, Physics Department
& Center for Cosmology and AstroParticle Physics (CCAPP)

Professional Preparation

CERN, EXPERIMENTAL PHYSICS DIVISION — 2014-2016

Marie-Curie COFUND Fellow

Convener, LHC Dark Matter Working Group (2015–2017)

Convener, ATLAS Astroparticle Forum (2015–2017)

Convener, ATLAS/CMS Dark Matter Forum (2014–2015)

THE UNIVERSITY OF CHICAGO — 2009–2014

Postdoctoral Scholar, the Enrico Fermi Institute

Convenor, ATLAS Exotics Jet+X Search Subgroup (2012–2014)

UNIVERSITY OF CALIFORNIA, SANTA BARBARA — 2001–2008

Ph.D in Physics

Thesis: "A Search For Resonant Z Pair Production," advised by David Stuart

UNIVERSITY OF IOWA — 1997–2001

B.S. in Physics, Mathematics, and Astronomy, summa cum laude

Experimental Space Plasma Physics Group (Prof. Craig Kletzing)

Nuclear and Particle Theory Group (Prof. Vincent Rodgers)

Selected Publications

For a full list of my publications, see INSPIRE (link). The following list is a list of my principal publications.

ATLAS Collaboration, *Search for new phenomena in dijet events using 37 fb−1 of pp collision data collected at s√=13 TeV with the ATLAS detector*	arXiv:1703.09127 (2017) (submitted to Phys. Rev. D))
ATLAS Collaboration, *Performance of the ATLAS Trigger System in 2015*	Eur. Phys. J. C 77 317 (2017)
A. Boveia et al., *Recommendations of the LHC Dark Matter Working Group: Comparing LHC searches for heavy mediators of dark matter production in visible and invisible decay*	arXiv:1703.05703 / CERN-LPCC-2017-01 (2017)
ATLAS Collaboration, *Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at √s=13 TeV using the ATLAS detector*	Phys. Rev. D 94 032005 (2016)
T. Golling et al., *Physics at a 100 TeV pp collider: beyond the Standard Model phenomena*	arXiv:1606.00947 (2016)
A. Boveia et al., *Recommendations on presenting LHC searches for missing transverse energy signals using simplified s-channel models of dark matter*	arXiv:1603.04156 / CERN-LPCC-2016-01 (2016)
ATLAS Collaboration, *Search for New Phenomena in Dijet mass and Angular Distributions from pp Collisions at √s = 13 TeV with the ATLAS Detector*	Phys. Lett. B754 302-322 (2016)
D. Abercrombie et al., *Dark Matter Benchmark Models for Early LHC Run-2 Searches: Report of the ATLAS/CMS Dark Matter Forum*	arXiv:1507.00966 (2015)
J. Abdallah et al., *Simplified Models for Dark Matter Searches at the LHC*	Phys.Dark Univ. 9-10 8-23 (2015)
ATLAS Collaboration, *Search for New Phenomena in Dijet Angular Distributions in Proton-Proton Collisions at √s=8 TeV Measured with the ATLAS Detector*	Phys. Rev. Lett. 114 221802 (2015)
ATLAS Collaboration, *Search for New Phenomena in Final States with an Energetic Jet and Large Missing Transverse Momentum in pp Collisions at √s=8 TeV with the ATLAS Detector*	Eur. Phys. J. C75 7 299 (2015)
ATLAS Collaboration, *Search for New Phenomena in the Dijet Mass Distribution using 20/fb of pp Collisions √s = 8 TeV with the ATLAS Detector*	Phys. Rev. D91 052007 (2015)
ATLAS Collaboration, *Search for New Phenomena in Photon+Jet Events Collected in Proton-Proton Collisions at √s = 8 TeV with the ATLAS Detector*	Phys. Lett. B728 562–578 (2013)
T. Altonen et al., *Operational Experience, Improvements, and Performance of the CDF Run II Silicon Vertex Detector*	Nucl. Inst. Meth. A 729 153–181 (2013)
A. Boveia, *Observation of a New Resonance at ATLAS (refereed proceedings of BEACH 2012)*	Nucl. Phys. B Suppl. 233 34-39 (2012)
ATLAS Collaboration, *Observation of a New Particle in the Search for the Standard Model Higgs Boson with the ATLAS Detector at the LHC*	Phys. Lett. B716 1–29 (2012)

ATLAS Collaboration, *Search for the Standard Model Higgs boson in the $H \to WW^{(*)} \to l\nu l\nu$ decay mode with 4.7 fb^{-1} of ATLAS data at $\sqrt{s}$ = 7 TeV* — Phys. Lett. B716 62–81 (2012)

ATLAS Collaboration, *Search for Production of Resonant States in the Photon-Jet Mass Distribution using pp Collisions at $\sqrt{s}$ = 7 TeV Collected by the ATLAS Detector* — Phys. Rev. Lett. 108 211802 (2012)

A. Annovi et al., *The FastTracKer Real Time Processor and Its Impact on Muon Isolation, Tau, and b-Jet Online Selections at ATLAS* — IEEE Trans. Nucl. Sci. 59, 348 (2012)

T. Aaltonen et al. (CDF Collaboration), *Search for New Heavy Particles Decaying to ZZ → llll, lljj in $p\bar{p}$ Collisions at $\sqrt{s}$ = 1.96 TeV* — Phys. Rev. D 83 112008 (2011)

T. Aaltonen et al. (CDF Collaboration), *Search for New Heavy Particles Decaying to ZZ → eeee in $p\bar{p}$ Collisions at $\sqrt{s}$ = 1.96 TeV* — Phys. Rev. D 78 012008 (2008)

A. Boveia et al., *Chiral Supergravitons Interacting with a 0-Brane N-Extended NSR Super-Virasoro Group* — Phys. Lett. B 529 222-232 (2002)

Conference and Seminar Presentations

The LHC Dark Matter Working Group, TeV Particle Astrophysics 2017, Columbus, Ohio, 7–14 August 2017

Where is Dark Matter at the LHC?, Karlsruhe Institute of Technology, Karlsruhe, Germany, 22 June 2017

Where is Dark Matter at the LHC?, Johns Hopkins University & University of Maryland Joint HEP Seminar, Baltimore, Maryland, 12 April 2017

Dark Matter at the LHC, APS Coordination Panel for Advanced Detector R&D, Caltech, 8–10 October 2016

Dark Matter Searches at the LHC, Dark Interactions 2016, Brookhaven National Lab, 4–7 October 2016

Dark Matter Searches at the LHC, PIKIO #2, Columbus, Ohio, 24 September 2016

Searches for Dark Matter at ATLAS and CMS, SUSY 2016, Melbourne, Australia, 3-8 July 2016

Dijet searches at trigger level; low mass; other opportunities (co-speaker), Experimental Challenges for the LHC Run II, Kavli Institute for Theoretical Physics, 11 May 2016

Searches for Dark Matter at ATLAS, CERN LHC Seminar, CERN, 26 April 2016

Exotics DM and Jet-related Searches, JSPS/Zuno-Junkan Workshop, University of Tokyo, 24–25 March 2016

Searching in the Dark at Hadron Colliders, Special Colloquium, The Ohio State University, 22 February 2016

Future 100 TeV detectors/experiments for DM studies, Dark Matter at a Future Hadron Collider Workshop, Fermilab, 4-6 December 2015

Jets and Dark Matter, HEP Seminar, University of California at Santa Barbara, 18 November 2015

Searches for Dark Matter at ATLAS, Joint Experimental-Theoretical Seminar, Fermilab, 6 November 2015

Dijet and dark matter benchmarks, FCC-hh BSM group, CERN, 30 October 2014.

Searching in the Dark at Hadron Colliders, HEP Seminar, University of Cambridge, 2 October 2014.

Searches for New Exotic Phenomena in Hadronic Final States at ATLAS, HEP Seminar, University of Massachussets, Amherst, 29 April 2014.

Searches for Physics Beyond the Standard Model (non-SUSY) at ATLAS, La Thuile 2014, 23 February–1 March 2014

Searches for Dark Matter at Colliders: Experiment, ATLAS Run II Exotics Workshop, 7 February 2014.

Overview of Exotics Searches at the LHC (public plenary session), US ATLAS Week, 15 July 2013.

Searching for Dark Matter at the LHC, HEP Seminar, University of Chicago, 20 May 2013.

Searching for Dark Matter at the LHC, HEP Seminar, University of Texas at Austin, 15 April 2013.

Recent Searches for Exotic States and Physics Beyond the Standard Model, DESY Hamburg/Zeuthen, 12/13 February 2013.

Lessons Learned from Searches in Hadronic Final States, US ATLAS Hadronic Final State Forum, 3 December 2012.

The Higgs Search at ATLAS, HEP Seminar, Iowa State University, 19 September 2012.

The Higgs Search at ATLAS, Physics Colloquium, the University of Iowa, 17 September 2012.

Observation of a New Narrow Resonance at ATLAS, The Tenth International Conference on Hyperons, Charm, and Beauty Hadrons (BEACH 2012), 22–27 July 2012.

Higgs Searches at ATLAS and *New Ways of Searching for New Physics at the LHC*, LHC Physics Center at Fermilab Visitor of the Week, 8–11 May 2012.

WW/ZZ Searches at the LHC, Chicago 2012 Workshop on LHC Physics, 2–4 May 2012.

Jet+X Searches at ATLAS, SuSy, Exotics, and Reaction to Confronting the Higgs (SEARCH 2012), 17–19 March 2012.

The Higgs Search at ATLAS, HEP Seminar, University of Chicago, 23 January 2012.

H → WW → lνlν: low mass optimization, LBNL Jamboree on Higgs Searches, 24–26 October 2011.

Non-SUSY Searches at the Tevatron, XLIIIth Rencontres de Moriond, QCD and High Energy Interactions, 14–21 March 2009.

Searches for Anomalous ZZ at CDF, HEP Seminar, University of Illinois at Urbana-Champaign, 2 March 2009.

Searches for Anomalous ZZ at CDF, HEP Seminar, University of Chicago, 23 February 2009.

Status and Performance of the CDF Run II Silicon Detector, EPS 2005, 21–27 July 2005.

Radiation Damage to the CDF Silicon Detectors, Fermilab Directorate All Experimenters Meeting, 1 August 2005.

Awards and Honors

CERN Marie Curie COFUND Fellowshi (2014–2017)

Outstanding Teaching Assistant, UCSB Physics Dept. (2002–2003)

James A. Van Allen Award, University of Iowa (2001)

Stevens Phi Beta Kappa Scholarship, University of Iowa (2000–2001)

Waldo Edward and Martha Althaus Smith Award, University of Iowa (2000)

Phi Beta Kappa (Junior Election Spring 2000)

Service and Outreach

Workshop convener, Dark Matter Complementarity, TeV Particle Astrophysics (TeVPA) (August 2017)

Organizing committee, Future of collider searches for Dark Matter at the LHC Physics Center, Fermilab (27–28 July 2017)

Referee, European Research Council (2017)

Referee, Journal of Instrumentation (2016-2017)

Co-author, "If You Can't Find Dark Matter, Look First for a Dark Force," Nautilus Magazine (Februrary 2017)

Ohio State University Postdoctoral Advisory Council (PAC) panel volunteer (2016)

Local Organizing Committee, 2nd PIKIO Meeting (2016)

Dark Matter Bloc co-leader, Experimental Challenges for the LHC Run II (experlhc16), Kavli Institute for Theoretical Physics (May 2016)

Organizing Committee, DM@LHC 2016, Amsterdam (April 2016)

CERN Courier ATLAS dark matter articles (May 2016, March 2015)

Discussion convener, Dark Matter at a Future Hadron Collider Workshop, Fermilab (4-6 December 2016)

Referee, The European Physical Journal, C: Particles and Fields (2015)

Co-convener, ATLAS/CMS Dark Matter Forum (2014–2015)

ATLAS Exotics Group Dark Matter Theory Liason (2014–2016)

ATLAS Jet+X (JDM) co-convener (2012–2014)

Organizing Committee, ATLAS Hadronic Calibration Workshop (September 2013)

Organizing Committee, Chicago Workshop for LHC Physics (November 2012)

Interviewed by Sharon Gaudin for Computerworld/Macworld/PCWorld, "***Particle discovery is game changer for understanding the universe***" (July 2012)

Interviewed by Joanna Carver, Medill School of Journalism, Northwestern University, for "***What is the Higgs? It matters to matter***" (August 2012)

Interviewed by Geoff Brumfiel, Nature, for "***High-energy physics: Down the petabyte highway***" (January 2011)

Organizer, Enrico Fermi Institute High Energy Physics Lunch Seminars (2010–2011)

Tour guide, CDF Experiment (2006–2007)

Mentor to Fermilab summer students Kimmo Kotajarvi and Juha Laakko, University of Helsinki (2005)

Volunteer, Iowa Robotic Observatory (1999-2001)

Recent Teaching and Mentoring

Courses

Physics 3700, Experimental Physics Instrumentation and Data Analysis Lab (Fall 2017)

Students

Lene Bryngemark, Lund University (2016 ATLAS Thesis Award winner; now at DESY)

CERN/Michigan REU Summer Student co-supervisor, Joshua Ramette, Hillsdale College, "***Improving ATLAS Jet Measurements and Searches with Particle Information***" (2016; now grad. student at MIT)

CERN Summer Student co-supervisor, Armin Fehr, Univ. Bern, "Triggering on W, Z Boson Jets" (2016)

Steven Schramm, University of Toronto (2015 ATLAS Thesis Award winner; now postdoc at University of Geneva)

CERN Summer Student co-supervisor, Zitan Guo, Chung Chi College, Hong Kong, "*Simulation, selection and reconstruction of dark Z bosons decaying into collimated leptons in proton-proton collisions at √s=13 TeV with the ATLAS detector*" (2015)

CERN Summer Student co-supervisor, Roumaissa Zebida, Algeria, "*A trigger for selecting long-lived particle decays in the ATLAS detector and its improvements for the LHC Run-2*" (2015)

CERN Summer Student co-supervisor, Navaratnam Navarajacumaran, University of Yamanashi, Japan, "*Analyzing the Quality of Dijet Data*" (2015)