

Eva Halkiadakis

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Education

Highest Earned Degree

| Ph.D., Experimental Particle Physics, Rutgers University, 2001

Other Earned Degrees

| B.S. Physics / B.A. French, Rutgers University, 1995

Linguistic Ability

| Mother tongue: English

| Fluent: Greek

| Competent: French

Employment History

Positions Held

07/2012-ongoing | Rutgers University, Associate Professor

07/2006-06/2012 | Rutgers University, Assistant Professor

01/2006-06/2006 | Rutgers University, Assistant Research Professor

07/2001-12/2005 | University of Rochester, Research Associate

Research Interests

Description of Research and Scholarly or Creative Objectives

| CMS (Compact Muon Solenoid), 2001–Present

| CDF (Collider Detector at Fermilab), 2000–2012

| KTeV (Kaons at the Tevatron), 1994–2003

Honors and Awards

Professional Awards and Honors

2015 | Fermilab Universities Research Association Visiting Scholars Program, May 2015 - April 2016, \$10,200 (travel funds)

- 2015 | Member of High Energy Physics Advisory Panel (HEPAP), April 2015 - present
- 2015 | American Physical Society Fellow, Division of Particles and Fields, 2015
- 2009 | Rutgers SPS Outstanding Teaching Award, April 2009
- 2008 | NSF CAREER Award, 2008–2013, \$550,000 (over 5 years)

Fellowships

- Rutgers Board of Trustees Research Fellowship for Scholarly Excellence, 2012, \$2,000
- Fermilab LHC Physics Center (LPC) Fellowship, May 2012- December 2012, \$16,000, plus \$10,00 travel funds
- Fermilab LHC Physics Center (LPC) Fellowship, May 2011- May 2012, \$40,000, plus \$20,00 travel funds

Memberships

Membership/Offices Held in Scholarly and Professional Societies

- 1999-ongoing | Member, American Physical Society

Conference Presentations, Lectures, Demonstrations

Keynote or Plenary Addresses

- 2017 | *Aspen 2017 Winter Conference (March 2017, expected), Aspen, CO.* Presentation Title: “New Phenomena Searches: Searches Using Jet Substructure”
- 2016 | *3rd New Physics Korea Institute (NPKI) Workshop on The Lessons from the First Results of Run 2 of the LHC (June 2016), Amherst, MA.* Presentation Title: “First BSM results from Run 2 of the LHC: Searches for diphoton and Zgamma Resonances”
- 2015 | *International Workshop on Baryon and Lepton Number Violation (April 2015), Amherst, MA.* Presentation Title: “Searches for New Physics at the LHC”
- 2013 | *Rencontres du Vietnam (August 2013), Quy Nhon, Vietnam.* Presentation Title: “Latest results from SUSY Searches”
- 2012 | *CERN PH-LHC Seminar (January 2012), CERN.* Presentation Title: "Update on Searches for New Physics in CMS"
- 2011 | *Workshop on Searches for Supersymmetry at the LHC (October 2011), Berkeley, CA.* Presentation Title: "Searches for New Physics at CMS"
- 2011 | *Boost 2011 Workshop (May 2011), Princeton, NJ.* Presentation Title: “Search for New Physics in Multijet Final States at CDF”
- 2010 | *22nd Rencontres de Blois (July 2010), Blois, France.* Presentation Title: “Non-SUSY Searches at the Tevatron”
- 2010 | *35th International Conference on High Energy Physics (July 2010), Paris, France.* Presentation Title: “SUSY and RPV SUSY Searches at the Tevatron”
- 2010 | *Boost 2010 Workshop (June 2010), Oxford, UK.* Presentation Title: “Signatures of lepton-jet production at the LHC”
- 2009 | *Fermilab Joint Experimental-Theoretical Seminar (May 2009), Batavia, IL* Presentation Title: “Direct measurement of the W boson production charge asymmetry at CDF”
- 2009 | *XXIII Rencontres de Physique de la Vallee d’Aoste (March 2009), La Thuile, Aosta Valley, Italy.* Presentation Title: “Electroweak Measurements from the Tevatron”
- 2008 | *Aspen 2008 Winter Conference (January 2008), Aspen, CO.* Presentation Title: “Top Quark

Properties at the Tevatron”

- 2008 | *LHC New Physics Signatures Workshop (January 2008), University of Michigan*. Presentation Title: “Extracting Hadronic Resonances using Jet Ensembles”
- 2006 | *APS April Meeting (April 2006), Dallas, Texas*. Plenary Presentation Title: “Top at Run II and LHC Prospects”
- 2005 | *Weak Interactions and Neutrinos (2005), Delphi, Greece*. Presentation Title: "Measuring the Top Quark Mass at the Tevatron"
- 2004 | *32nd International Conference on High Energy Physics (2004), Beijing, China*. Presentation Title: "Asymmetries in W and Z Production at the Tevatron"
- 2003 | *Fermilab Joint Experimental–Theoretical Seminar (2003), Batavia, IL*. Presentation Title: "Recent Results in Electroweak, Exotic and Top Physics from CDF. Seminar also given in 2003 at: *Rutgers University*

Invited Addresses

- 2016 | *University of Minnesota Colloquium (February 2016), Minneapolis, MN*. Presentation Title: Exploring the Energy Frontier at the LHC. Colloquium also given at:
- *NYU (expected, Spring 2017)*
 - *Wayne State University (Nov. 2016)*
- 2015 | *Workshop on Preparing for the High-Luminosity Run of the LHC (June 2015), Perimeter Institute for Theoretical Physics, Waterloo, ON, Canada*. Presentation Title: “New Trigger Strategies”
- 2015 | *Stockton University Colloquium (March 2015), Galloway, NJ*. Presentation Title: “Searching for Physics Beyond the Standard Model with the CMS Experiment at the LHC”. Colloquium also given at:
- *Florida International University (Feb. 2015)*
 - *Princeton University (Nov. 2014)*
 - *Florida Institute of Technology (Mar. 2014)*
 - *The University of Victoria (Feb. 2014)*
 - *TRIUMF Laboratory (Feb. 2014)*
- 2014 | *APS April Meeting (2014), Savannah, GA*. Presentation at Luncheon organized by the Committee on the Status of Women in Physics (CSWP) and the Division of Particles and Fields (DPF). Presentation Title: “My path to physics and the importance of mentoring”. Similar talk given at:
- *Princeton University's Women In Physics Luncheon (Apr. 2015)*
- 2014 | *University of Chicago Physics Seminar (May 2014), Chicago IL*. Presentation Title: “Latest results from SUSY Searches at CMS”. Seminar also given at:
- *University of Massachusetts-Amherst (Apr. 2014)*
 - *Brookhaven National Laboratory (Apr. 2014)*
 - *SLAC (Nov. 2013)*
- 2011 | *Oxford University Physics Seminar (January 2009), Oxford, UK* Presentation Title: “Direct measurement of the W boson production charge asymmetry at CDF”. Seminar also given at:
- *Rutherford Appleton Laboratory (Jan 2011)*
 - *University of Utah (April 2010)*
 - *University of Pennsylvania (Oct 2009)*
 - *University of Maryland (May 2009)*
- 2011 | *Rutgers University Physics Colloquium (September 2011), Piscataway, NJ* Presentation Title:

- 2011 | Rutgers University, Physics Colloquium (September 2011), Piscataway, NJ. Presentation Title: "Particle Physics at the Energy Frontier: From the Tevatron to the LHC"
- 2011 | University of Karlsruhe, High Energy Physics Seminar (July 2011), Karlsruhe, Germany. Presentation Title: "Searches for Hadronic Resonances at CDF and CMS". Seminar also given at:
- The University of Michigan (Oct. 2011)
 - Baylor (Nov. 2011)
 - Texas A&M (Nov. 2011)
- 2010 | The University of Utah, Physics Colloquium (April 2010), Salt Lake City, UT. Presentation Title: "The Startup of the LHC Experiments"
- 2009 | TASI Summer School (June 2009), Boulder, CO. Title of Lectures: "Introduction to the LHC Experiments"
- 2008 | APS April Meeting (2008), St. Louis, MO. Presentation Title: "Measurement of the W boson production charge asymmetry at CDF"
- 2007 | Universitat Autònoma de Barcelona, IFAE Seminar (2007), Barcelona, Spain. Presentation Title: "Recent Top Quark and Electroweak Measurements from CDF"
- 2005 | Rutgers University Physics Colloquium (March 2005), Piscataway, NJ. Presentation Title: "An Experimentalist's View of Particle Physics at the Energy Frontier". Colloquium also given in 2005 at:
- Kansas State University (Mar. 2005)
 - University of Colorado (Feb. 2005)
- 2005 | PIXEL International Workshop (September 2005), Bonn, Germany. Presentation Title: "A Proposed Luminosity Monitor for CMS Based On Small Angle Diamond Pixel Telescopes"
- 2005 | University of California, Irvine, Particle Physics Seminar (March 2005), Irvine, CA. Presentation Title: "Precision Electroweak and Top Quark Measurements at the Energy Frontier". Seminar also given in 2005 at:
- Johns Hopkins University (Feb. 2005)
 - Cornell University (Feb. 2005)
 - University of Minnesota (Feb. 2005)
 - LBNL (Feb. 2005)
 - Indiana University (Jan. 2005)
- 2004 | University of Washington High Energy Physics Seminar (2004), Seattle, WA. Presentation Title: "A View of the Top and the Electroweak"
- 2003 | University of Maryland High Energy Physics Seminar (2003), College Park, MD. Presentation Title: "A View of the Top and the Electroweak"

Service

Research

2016 |

Chair and Participant, Workshop on "Experimental Challenges for the LHC Run 2", Kavli Institute for Theoretical Physics (KITP), Santa Barbara, CA, May 2016.

2015-ongoing | Convener, CMS Exotica Non-Hadronic Physics Subgroup. I am co-leader of one of the six sub-groups of the CMS Exotica physics group. This working group is dedicated to searches for new physics in a variety of final states, excluding jets (which has its own subgroup), such as searches for dilepton and diphoton resonances, and searches in a lepton plus missing energy final state.

2015 | Member, Organizing Committee for Workshop on Experimental-Theoretical Intersection on

Searches for Long-lived Particles Beyond the Standard Model at the LHC, which took place at ACFI November 2015.

- 2015 | Chair, Plenary Session, International Workshop on Baryon and Lepton Number Violation, April 2015
- 2015 | Member, Fermilab LPC Guest and Visitor Program Committee, 2015
- 2015 | Member, APS DPF Nominating Committee for DPF Executive Committee, March 2015 - present
- 2014-ongoing | Member, Amherst Center for Fundamental Interactions (ACFI) Advisory Board, 2014 - present
- 2012-2013 | Convener, CMS SUSY Physics Group. There are nine physics analysis groups at CMS each led by two co-conveners for a two year period. I was appointed co-convener of SUSY physics group in September 2011, with the convenership officially starting in 2012, and continuing through December 2013. My convenership of the CMS SUSY group was during the peak data-taking period of LHC Run 1 - the 8 TeV proton-proton collisions of 2012.
- 2013 | Convener, Multiparticle aspects of physics beyond the Standard Model Session, International Symposium on Multiparticle Dynamics (ISMD2013), September 2013
- 2013 | Chair, SUSY Session, Rencontres du Vietnam, August 2013
- 2013 | External Reader, Ph.D. Thesis Sourpouhi Bedikian, Yale University, April 2013
- 2013 | Member, Selection Committee for US CMS Operation Program Manager and Deputy Operations Program Manager 2014
- 2012 | Chair, SUSY Session, 20th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2012)
- 2011-2012 | Organizer, Aspen Winter Conference, February 2012
- 2011-ongoing | Analysis Review Committees or ARC (CMS): Committee is appointed to review analysis prior to publication. Committee is also charged with evaluating the scope and contents of the paper, as well as the journal to be submitted.
- 2011 | Organizer, Boost 2011 Workshop, Princeton University, May 2011
- 2011 | Facilitator, Jets Exercises, CMS Data Analysis School at the LPC at Fermilab, January 2011
- 2010 | External Reviewer, Thesis Defense Committee M. Cooke, Columbia University, September 2010
- 2009-2011 | Convener, CMS Exotica Multijets Physics Subgroup. I was co-leader of one of the six sub-groups of the CMS Exotica physics group; I was the sole leader of this group for the first five months.
- 2009 | Convener, Electroweak Session, Europhysics Conference on High Energy Physics, July 2009
- 2009 | Facilitator, $Z \rightarrow e^+e^-$ Cross Section Exercise, CMS LPC EJTERM at Fermilab, January 2009
- 2008-ongoing | Reviewer, NSF/DOE Panel and Proposal Reviewer: The panels I have served on have, for example, consisted of three experts appointed to evaluate groups involved in the LHC and other experiments. The reviews have been "reverse site visits" of proponents of NSF proposals as well as "site visits" to the university of the group being evaluated. I have also served on joint NSF/DOE panels as well as a reviewer of proposals, submitting a written report.
- 2008 | Member, CDF Spokes-person Election Committee 2008
- 2008 | External Reviewer, Dissertation Committee for Tuula Maki, Helsinki University of Technology, January 2008
- 2007-ongoing | Referee, Physical Review Letters and Physical Review D
- 2007 | Convener, Top and Electroweak Physics Session, Hadron Collider Physics Symposium 2007
- 2007 | Referee, FIZIKA A & B (Croatian Physical Society)
- 2006-2008 | Convener, CDF Electroweak Physics Group. At the time, there were six physics groups at CDF (QCD, Electroweak, Top, Bottom, Exotics, and Higgs) each led by two co-conveners for a two year

period.

- 2006 | Facilitator, Hadron Collider Physics Summer School 2006
- 2006 | Convenor, Top Mass Session, APS April Meeting 2006
- 2004-2005 | Convenor, CDF Top Mass Working Group. At CDF at the time, there were sub-working groups within the Top physics group each led by two co-conveners for a two year period.
- 2003-2011 | Member, Tevatron Electroweak Working Group, Batavia, IL: This group was charged with providing Tevatron (CDF and D0) combined averages of electroweak measurements.
- 2003 | CDF Tour Guide, Lepton Photon 2003
- 2002-2012 | Godparent Committees (CDF): Committee is appointed to review analysis prior to publication. Committee is also charged with evaluating the scope and contents of the paper, as well as the journal to be submitted.
- 2002-2004 | Convenor, *CDF W & Z Cross Section Working Group*
- 2002 | Working Group Leader, CDF Silicon Data Monitoring Working Group
- 2001-2003 | Convenor, *CDF Electron Task Force*

Outreach

- 2015-2016 | Research Experience for Undergraduates (REU) Program: Co-supervised 1-2 students each summer
- 2015 | Organizer, Rutgers Society of Physics Students Trivia Night. The SPS hosted its first ever Trivia Night, a Jeopardy-like competition with three teams consisting of both professors and students, on April 2015. The idea came from my discussions with several physics undergraduates in my classes, with whom I helped create and organize this event. It was very successful and we aim to make it an annual departmental activity.
- 2014-2015 | Speaker, *Introduction to Scientific Research Course for Douglass Residential College, Rutgers*. Title: "The Physics of the Large Hadron Collider", Organized by the Douglass Project for Rutgers Women in Math, Science, and Engineering, March 2014 and 2015
- 2014-2015 | Member, Organizing Committee for Conference for Undergraduate Women in Physics (CUWiP) at Rutgers University, which took place on January 2015
- 2014 | Member, Rutgers' Douglass Project STEM Summer Stipend Selection Committee, March 2014
- 2014 | Speaker, *Chatham NJ High School Public Community Talk*. Title: "The Large Hadron Collider", Organized by the Rutgers Speakers Bureau, May 2014
- 2014 | Speaker, Presentation organized by the Rutgers chapter of the Society of Physics Students, given to Rutgers undergraduates. Title: "The Large Hadron Collider", March 2014
- 2013 | Contributed to news article on the LHC for local newspaper *New Jersey Home News*, "Doorway to the Universe", February 2013
- 2011 | Panelist, *Bunting-Cobb Night with Faculty*, Bunting-Cobb, Douglass Campus, April 2011
- 2009-2014 | Organizer, *Quarknet's US Masterclass*, At Rutgers with NJ High Schools, March 2009 and March 2014
- 2009 | Panelist, *Exploring Science Majors at Rutgers*, Bunting-Cobb, Douglass Campus, April 2009
- 2008-2010 | Speaker, Title: "*Physics at the High Energy Frontier*", NJ Science Teachers Convention 2008 and 2010
- 2008 | Contributed to TV report on the LHC for local news station *NJN*, "Rutgers University LHC physics program", November 2008
- 2007-ongoing | Organizer, *Quarknet Program at Rutgers*, Summer program with NJ High School Teachers and Students
- 2007-ongoing | Member, *Rutgers Speakers Bureau*

Students Supervised

Students Supervised for Independent Studies

Grad

- 2015 | Alejandro Espinosa Gomez: 2013-ongoing, "Search for R-Parity Violating Supersymmetric Top Partners in Boosted Jets Final State" [Primary Advisor]
- 2014 | Claudia Seitz (Defended): 2010-2014, "Search for a New Hadronic Resonance using Jet Ensembles at CDF and CMS" (Masters Degree January 2011, Ph.D. January 2014) [Primary Advisor]
- 2011 | Daryl Hare (Defended): 2005-2011, "Measurements of top quark properties in the tau+jets channel at CDF" (Ph.D. October 2011) [Primary Advisor]
- 2007 | Jared Yamaoka (Defended): Spring 2006-Fall 2007, "Measurement of the relative fraction of ttbar events produced via gluon-fusion at CDF," Although I was not Jared Yamaoka's official supervisor, I worked very closely with him. [Secondary Advisor]

Postdoctoral Trainees

- 2015 | Dan Duggan: 2009 - 2015: Now a CERN Fellow
- 2015 | Dean Hidas: 2009 - 2015: Now at Brookhaven National Laboratory as Photon Sciences Staff
- 2009 | Shan-Huei Chuang: 2007-2009

Publications

Significant Publications

A full list of publications can be found here: [http://inspirehep.net/search?](http://inspirehep.net/search?ln=en&p=find+a+halkiadakis%2Ce&of=hb&action_search=Search&sf=earliestdate&so=d)

[ln=en&p=find+a+halkiadakis%2Ce&of=hb&action_search=Search&sf=earliestdate&so=d](http://inspirehep.net/search?ln=en&p=find+a+halkiadakis%2Ce&of=hb&action_search=Search&sf=earliestdate&so=d)

- 2015 | "Search for pair-produced resonances decaying to jet pairs in proton-proton collisions at $\sqrt{s} = 8$ TeV", V. Khachatryan *et al.*, [CMS Collaboration], [Phys. Lett. B 747 \(2015\) 98](#), 22 pages.
- 2014 | "Status and Implications of Beyond-the-Standard-Model Searches at the LHC", E. Halkiadakis, G. Redlinger, D. Shih, [Annual Review of Nuclear and Particle Science 64, 319 \(2014\)](#), 22 pages.
- 2014 | "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 \(2014\)](#), 22 pages.
- 2013 | "Search for pair-produced dijet resonances in four-jet final states in pp collisions at $\sqrt{s} = 7$ TeV", S. Chatrchyan *et al.*, [CMS Collaboration], [Phys. Rev. Lett. 110, 141802 \(2013\)](#), 15 pages
- 2012 | "Search for three-jet resonances in pp collisions at $\sqrt{s} = 7$ TeV", S. Chatrchyan *et al.*, [CMS Collaboration], [Phys. Lett. B718, 329 \(2012\)](#), 27 pages.
- 2012 | "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. B717, 351 \(2012\)](#), 20 pages.
- 2012 | "Measurements of the Top-quark Mass and the ttbar Cross Section in the Hadronic tau + Jets Decay Channel at $\sqrt{s} = 1.96$ TeV", T. Aaltonen, *et al.*, [CDF Collaboration], [Phys. Rev. Lett. 109, 192001 \(2012\)](#), 8 pages.
- 2011 | "Measurement of the top-quark mass in the lepton+jets channel using a matrix element technique with the CDF II detector," T. Aaltonen *et al.* [CDF Collaboration], [Phys. Rev. D 84, 071105\(R\) \(2011\)](#), 10 pages.
- 2011 | "Search for Three-Jet Resonances in pp Collisions at $\sqrt{s} = 7$ TeV," S. Chatrchyan *et al.* [CMS Collaboration], [Phys. Rev. Lett. 107, 101801 \(2011\)](#), 15 pages.
- 2011 | "Search for supersymmetry in events with a lepton, a photon, and large missing transverse

- energy in pp collisions at $\sqrt{s} = 7$ TeV," S. Chatrchyan *et al.* [CMS Collaboration], [JHEP 06, 093 \(2011\)](#), 28 pages.
- 2011 | **"First Search for Multijet Resonances in $\sqrt{s} = 1.96$ TeV p-pbar Collisions,"** T. Aaltonen *et al.* [CDF Collaboration], [Phys. Rev. Lett. 107, 042001 \(2011\)](#), 7 pages.
- 2009 | **"Direct Measurement of the W Production Charge Asymmetry in p-pbar Collisions at $\sqrt{s} = 1.96$ TeV,"** T. Aaltonen *et al.* [CDF Collaboration], [Phys. Rev. Lett. 102, 181801 \(2009\)](#), 7 pages.
- 2009 | **"Measurement of the fraction of t-tbar production via gluon-gluon fusion in p-pbar collisions at $\sqrt{s} = 1.96$ TeV,"** T. Aaltonen *et al.* [CDF Collaboration], [Phys. Rev. D 79, 031101 \(R\) \(2009\)](#), 8 pages.
- 2008 | **"New analysis technique to measure the W production charge asymmetry at the Fermilab Tevatron,"** A. Bodek, Y. Chung, E. Halkiadakis, B. Y. Han and K. McFarland, [Phys. Rev. D 77, 111301 \(R\) \(2008\)](#), 5 pages.
- 2007 | **"Measurements of Inclusive W and Z Cross Sections in p-pbar Collisions at $\sqrt{s} = 1.96$ TeV,"** A. Abulencia *et al.* [CDF Collaboration], [J. Phys. G: Nucl. Part. Phys. 34, 2457 \(2007\)](#), 89 pages.
- 2005 | **"First measurements of inclusive W and Z cross sections from Run II of the Tevatron collider,"** D. Acosta *et al.* [CDF Collaboration], [Phys. Rev. Lett. 94, 091803 \(2005\)](#), 7 pages.
- 2004 | **"Measurement of the t-tbar production cross section in p-pbar collisions at $\sqrt{s} = 1.96$ TeV using dilepton events,"** D. Acosta *et al.* [CDF Collaboration], [Phys. Rev. Lett. 93, 142001 \(2004\)](#), 7 pages.
- 2001 | **"Measurements of the rare decay $K_L \rightarrow e^+e^-e^+e^-$,"** A. Alavi-Harati *et al.* [KTeV Collaboration], [Phys. Rev. Lett. 86, 5424 \(2001\)](#), 4 pages.