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Curriculum Vitae

Duncan L. Carlsmith

Contact information

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Personal information

Birth 22 Nov. 1957, Nashua, N.H. (US citizen), two grown children.

Education

University of Chicago - M.S. Physics (1980) ; Ph.D. Physics (1984).
Yale University - B.S. Physics (1979), cum laude.
Richmond College, Richmond, Surrey, England (1974-5).

Employment

1999-present	Full Professor, University of Wisconsin-Madison
1993-99	Associate Professor, University of Wisconsin, Madison
1987-93	Assistant Professor, University of Wisconsin-Madison
1984-87	Project Associate, University of Wisconsin-Madison
1980-84	Research Assistant, University of Chicago

Research in elementary particle physics

Compact Muon Solenoid (CMS) Collaboration, CERN LHC, 1994-present.
Public website: http://cms.web.cern.ch/
Physics in pp collisons at $\sqrt{s}$= 7 TeV at the Large Hadron Collider (LHC). Endcap system design, cathode strip chamber R&D. Production planning. Laser alignment source and sensor installation, data acquisition hardware and software development and commissioning. Laser alignment system and Alignment Task Management, USCMS Election Committee 2008-9, Endcap Muon CSC commissioning and operations, CSC Data Quality monitor 2011-, paper reviewer.

Collider Detector Facility (CDF), Fermilab, 1984-present.
Public website: http://www-cdf.fnal.gov/
Physics in $p\bar{p}$ collisions at $\sqrt{s}$ = 1.8 TeV, CDF I Forward Muon Spectrometer System construction and operation, Muon Group Convener, Muon Upgrade Group Leader, Annual Shift Captain/Scientific Coordinator, Executive Board. CDF II Intermediate Muon System design, fabrication, maintenance and operation, paper godparent.

Superconducting Super Collider Subsystem R & D, 1986-1991.
Public website: http://www.hep.net/ssc/
1986 Snowmass Muon Group Co-leader, WI SSC Workshop Group Leader, SSC Generic Muon Subsystem Design Activities, Drift Chamber Development, High Pressure Gas Calorimetry Development, Muon Detector and Facilities Design, Engineering and Integration, Fermilab Experiment T816: SSC Muon Subsystem Beam Tests.

Solenoidal Detector Collaboration (SDC), SSCL, 1991-1993.
Proton-proton collisions at $\sqrt{s}$ = 40 TeV. Muon Chamber Selection Committee, Muon Technical Board, Air Core Toroid Task Force, Intermediate Muon System Task Leader, RPC Committee (1993), Muon Trigger Review Committee (1993), Institutional Board.

Fermilab Experiment E617, 1980-1984.
Measurements of K^0 and $\bar{K^0}$ meson CP violation parameters and of the strange-quark magnetic moment.

Education research

Flexible Physics for the Google World, 2011-.
Public website: http://flexible.physics.wisc.edu/
Project to create video-based learning objects for labs for undergraduates and teaching assistants in physics.

Grants and Contracts as Principal Investigator

The Graduate School, University of WI-Madison
Flexible Physics for the Google World (2011-12)

Department of Energy
Research in High Energy Physics (DE-AC0276ER00881)(with UW HEP group)
Task E (CDF): Ultra High Energy Colliding Beam Physics (1988-present with Prof. Lee Pondrom)
Task T (CMS): R & D for Major Detector Subsystems Detectors (1992-present, with Prof. Wesley Smith and Prof. Sridhara Dasu)

Lawrence Berkeley Laboratory/SDC
SDC Muon Magnet and Chamber Preliminary Design (EOI)(1990)
SDC Muon Magnet and Chamber Preliminary Design (LOI)(1991)

Superconducting Super Collider Laboratory
Development of a Muon Subsystem for a Solenoidal Detector (1990-91, with Prof. Don Reeder)
Iron Toroid Design and Muon Chamber Engineering (1990-1993)
Construction of Intermediate Muon System (1992-94, with Prof. Don Reeder)

Texas National Laboratory Research Commission
Intermediate Muon Detector for the SDC (1993)

The Graduate School, University of WI-Madison
CMS Engineering, Project 951668, Fund 135-3517 (1995)

Leaves/Sabbaticals

Fall 2008 Sabbatical leave at CERN, Geneva, Switzerland.

University of Wisconsin teaching

Physics 103: General Physics I†	1997
Physics 104: General Physics II†	1998
Physics 107: Ideas of Modern Physics	1999, 2000-04, 2010
Physics 201: General Physics I*	1994, 1997, 2001, 2006
Physics 202: General Physics II*	1989, 1996, 2012
Physics 205: Modern Physics for Engineers	2009
Physics 207: General Physics I**	1995, 2000
Physics 208: General Physics II**	2001, 2009
Physics 241: Modern Physics	2005
Physics 244: Modern Physics (primarily for ECE majors)	2007, 2008
Physics 247: A Modern Introduction to Physics I°	2010
Physics 248: A Modern Introduction to Physics II°	2011
Physics 249: A Modern Introduction to Physics III°	2011
Physics 299: Directed Study	1991, 2009, 201°0
Physics 301: Physics Today††	1991,1993,1995,1997
Physics 307: Intermediate Laboratory††	1994
Physics 311: Classical Mechanics††	1989, 1990, 1995, 2007
Physics 321: Wave Motion and Optics††	1993
Physics 322: Electromagnetic Fields††	1988, 1992, 2002
Physics 415: Thermal Physics††	1991
Physics 531: Introduction to Quantum Mechanics††	1989, 1993, 1996
Physics 535: Elementary Particle Physics#	1988,1990,1992,1998, 2004, 2005, 2006
Physics 601: Scientific Presentation#	1994
Physics 990: Research in Physics#	1989-present

† non-calculus for biologists, * calculus for engineers, ** calculus for biologists, ° accelerated for physics and astronomy majors, †† physics majors, # graduate level

Course descriptions are available at http://www.physics.wisc.edu/undergrads/general/courses.html/.

College of Letters and Sciences and University Committees

Faculty Advising Service	1989-92,1993-8
Letters and Science Advising Center	2006
Faculty Senate	1990-1995, 2004-2012
Senate alternate	2001-2004
Honors Fellow	1994-7
Faculty Honors Committee	1995-97
Honors Faculty Mentor	1995
Physical Sciences Division Fellowships Committee	1996-8, 2000-4, 2006, 2007 (chair)
Wisconsin Space Grant Advisor	1995-2006
Hilldale Awards	2005
UW Madison Bouchet Selection Committee	2010-12
General Education Requirements Committee	2011-

Department of Physics Committees

Physics Council	1997-2001
Ombudsperson	2005
Electronic Shop	2005
Nominating	1988-89
Introductory Courses	1997, 2010, 2011(chair)
Intermediate and Advanced Courses	1989-90, 94
Mentor	1987-95
Honors	1989-2004, 2006
Preliminary Exam	1989-90, 2006
Awards	1989-94,2001
High Energy Advisor	1989-90
Physics Advisor Soph/Fresh	1998-2004, 2005
Physics Advisor Juniors	1998-2005
Physics Advisor Individual majors	2001-2
Qualifying Exam	1989,1998,1999, 2000, 2001
Introductory Seminar	1989-92
Graduate Admissions and Fellowships	1989-90,1995, 1996(chair), 199, 2003, 2004, 2007(chair)
Degree Audit Record System Representative	1997-2006
Research Capital	1997-8 (chair)
Faculty Minority Liaison	1998-present
TA Policy and Review	2001, 2009 (chair), 2010-12
Salaries	2001
Climate and Diversity	2007 (originator and chair)
Physics certificate	2007 (originator)
Computing	2007
Student Awards	2010
Physics Learning Center Oversight Committee	2011

Journal Publications

An itemized list of 768+ journal publications with D. Carlsmith as co-author is available at: http://usparc.ihep.su/spires/find/hep/wwwcite?rawcmd=FIND+author+carlsmith

Books

Duncan Carlsmith, *Particle Physics*, Addison-Wesley (2013). A 700+ page graduate level textbook.
http://www.pearsonhighered.com/educator/product/Particle-Physics/9780321676894.page

Professional Organizations

American Physical Society (1984-present), American Association of Physics Teachers (07-) IEEE member (1987-1995), PHENIX Muon System Review Panel(1993), Referee for DoE High Energy Physics Proposals, USCMS election Committee (08-09), LHC Users Organization candidate for Executive Committee 08-09, Advances in High Energy Physics editor (10-), National Society of Black Physicists (09-)

Recent Outreach

National Society of Black Physicists and National Society of Hispanic Physicists Annual Meeting, Austin (2011), escort and recruiter

Madison West Rotary Club, "The Large Hadron Collider at CERN," a talk at the Westside Business Men's Club, 30 Apr 2009.

Rotary Club of Madison, "The Large Hadron Collider: A fantastic experiment," a talk for a 250+ member audience at the Alliant Energy Center Exhibition Hall, 24 Feb 2010.