

Robert N. Cahn

Education:

Undergraduate: Harvard University, B.A. Chemistry and Physics, summa cum laude, 1966

Graduate: Univ. of California, Berkeley, Ph.D. Physics, 1972

Postdoctoral: Stanford Linear Accelerator Center, 1972-73

Appointments

Senior Physicist, emeritus, Lawrence Berkeley Laboratory, 2017-

Senior Physicist, Lawrence Berkeley Laboratory, 1982-2017

Director, Physics Division, Lawrence Berkeley Laboratory, 1991-6

Divisional Fellow, Lawrence Berkeley Laboratory, 1979-82

Assoc. Prof. in Residence, Univ. of California, Davis, 1978-79

Asst. Prof., Univ. of Michigan, 1976-78

Research Asst. Prof., Univ. of Washington, 1973-76

Selected publications

Particle Physics:

Production of Very Massive Higgs Bosons

R.N. Cahn and S. Dawson, Phys. Lett. B136, 196(1984).

Transverse Momentum Signatures for Heavy Higgs Bosons,

R. N. Cahn, S. D. Ellis, et al. Phys. Rev. D35, 1626 (1986).

Azimuthal Dependence in Leptonproduction: a Simple Parton Model Calculation

R. N. Cahn, Phys. Lett. 78B, 269 (1978).

Bounds on the Masses of Neutral Generation Changing Gauge Bosons,

R. N. Cahn and H. Harari, Nucl. Phys. B176, 135 (1980)

Polarized electron-Nucleon Scattering in Gauge Theories of Weak and Electromagnetic Interactions

R. N. Cahn and F. J. Gilman, Phys. Rev. D 17, 1313 (1978)

The Eighteen arbitrary parameters of the standard model in your everyday life,

R. N. Cahn, Rev. Mod. Phys. 68, 951 (1996).

Cosmology:

Test for Cosmological Parity Violation Using the 3D Distribution of Galaxies,

R. N. Cahn, Z. Slepian, and J. Hou, Phys. Rev. Lett. 130 (2023)20, 201002
(arXiv:2110.12004)

Measurement of Parity-Odd Modes in the Large-Scale Four-Point Correlation Function of SDSS BOSS DR 12 CMASS and LOWZ Galaxies,

J. Hou, Z. Slepian, and R. N. Cahn, Mon. Not. R. Astron. Soc., 522 (2023) 4, 5701
(arXiv:2206.03625)

Dark Energy Task Force: Findings and Recommendations

R. N. Cahn, Int. J. Mod. Phys. D16 (2008) 2551.

Mitigating the Impact of the DESI Fiber Assignment on Galaxy Clustering

A. Burden, N. Padmanabhan, R. N. Cahn, et al., JCAP 1703(2017) 001.

Parameterized Beyond-Einstein Growth

E. V. Linder and R. N. Cahn, *Astropart.Phys.* 28 (2007) 481-488

Medical and X-Ray Physics:

Detective Quantum Efficiency Dependence on X-Ray Energy Weighting in Mammography

R. N. Cahn, et al., *Med. Phys.* 26, 2680 (1999).

Focusing Hard X-Rays with Old LPs

B. Cederstrom, R. N. Cahn, et al., *Nature*, 404, 951 (2000).

Books:

The Experimental Foundations of Particle Physics, Second Edition

Robert N. Cahn and Gerson Goldhaber, Cambridge University Press, 2009

Semi-Simple Lie Algebras and Their Representations

Robert N. Cahn, Benjamin Cummings, 1984, Dover Publications, 2006

Grace in All Simplicity, Robert N. Cahn and Chris Quigg, Pantheon Press, 2023

John David Jackson: A Course in Quantum Mechanics, edited by Robert N. Cahn, Wiley, 2023

Professional activities

American Physical Society

Executive Committee, Forum on Physics and Society of APS, 1980

Panel on Public Affairs, 2001 - 2003

APS Division of Particles and Fields: Vice Chair, Chair-elect, Chair, 2006-9

APS April 2010 Meeting, Program Chair:

Member, Physics Policy Committee, APS 2012-2014

Member, Nominating Committee, APS, 2013-2015

Fellow of the American Physical Society, 1988

Member, Governance Committee, 2019-2021

Public Communication

Einstein, Your Cell Phone, and You, op-ed piece published in San Francisco

Chronicle op-ed piece published in San Francisco Chronicle, August 30, 2000

Publications

Divisional Associate Editor, *Physical Review Letters*, 1986-89

APS Review Panel for *Physical Review Letters*, 1990-91

SLAC Beamline Editorial Advisory Committee, 1992-98

Secretary-Treasurer, Division of Particles and Fields, 1992-94

Editorial Board, Colloquium Section of *Rev. Mod. Phys.*, 1991-95

Advisory committees

SLAC Program Advisory Committee, 1977-8

Member, Conseil Scientifique, LPNHE, Univ. Pierre et Marie Curie, 2011-16

Member, Scientific Committee, Institut Lagrange de Paris, 2011-2013

Chair, NSF Panel on Rare Symmetry-Violating Processes, 2005

NASA-NSF-DOE Dark Energy Task Force, 2005 - 2006

DOE High Energy Physics Advisory Panel, 2006 - 2008

NSF Committee of Visitors, Physics Division, 2000

Santa Cruz Inst. for Particle Physics Adv. Committee, 1985-2015,

HEPAP Subpanel: Portfolio Review, 2018