

Jeffrey D. Richman – Biographical Sketch

Jeffrey Richman is Distinguished Professor of Physics at the University of California, Santa Barbara (UCSB). His research is in the field of experimental elementary particle physics (high energy physics). Richman received his Ph.D. from Caltech in 1985 and his B.S. from Yale *summa cum laude* in 1979. He was a postdoctoral fellow at the CERN particle physics laboratory in Geneva, Switzerland and at the Lawrence Berkeley National Laboratory (LBNL). He has held visiting positions at the Stanford Linear Accelerator Center, as Physics Coordinator of the BaBar experiment to study matter-antimatter asymmetries in the B-meson system, and at the INFN laboratory in Pisa, Italy, working on silicon-strip detector development.

Richman is a Fellow of the American Physical Society and is a Fellow of the American Association for the Advancement of Science (AAAS). He has been a Department of Energy Outstanding Junior Investigator and a Sloan Foundation Research Fellow. He is the lead principal investigator for the UCSB high energy physics group.

Richman has served on the Board of Directors of the Fermi Research Alliance, which manages the Fermi National Accelerator Laboratory (Fermilab). He has also served on numerous advisory committees in high energy physics, including the Fermilab Physics Advisory Committee (PAC), the SLAC Scientific Policy Committee (SPC), and the SLAC Experimental Program Advisory Committee (EPAC). He has served on and chaired the Director's Review Committee for the Physics Division at Lawrence Berkeley National Laboratory, and he has served on the Department of Energy's review committee for the Proton-Based Research Program at the National Laboratories. Richman served as a panelist for the National Academies Committee on the Integrity of Research Data.

Richman has served as Vice Chair (2016-2017) and Chair (2017-2018) of the system-wide University of California committee on research policy (UCORP) and has served for two years as a member of the UC committee on the national laboratories (ASCOLI), which works on matters related to UC's administration of the Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Lawrence Berkeley National Laboratory.

Richman currently works on the CMS experiment at the Large Hadron Collider (LHC) at CERN in Geneva, one of two experiments that discovered the Higgs boson in 2012. The main goal of the experiment is to search for new particles and physical processes at the TeV energy scale. Richman has served as convener (coordinator) of the CMS Supersymmetry Physics Analysis Group, which is searching for particles that could mirror the known standard model particles and help to explain dark matter. Richman has served as co-chair of the CMS Supersymmetry Physics Publication Board and the Exotica Physics Publications Board and is a member of the CMS Collaboration Board Advisory Group. He and his postdocs and graduate students have worked on many aspects of CMS, including the Muon Cathode Strip

Chamber electronics, the High Level Trigger software for muon reconstruction, and particle tracking software.

Richman also worked for many years on measurements of heavy-quark physics and matter-antimatter asymmetries in the B-meson system in the BaBar experiment at the SLAC National Accelerator Laboratory. He has served as both the BaBar Physics Coordinator and Deputy Physics Coordinator. He has worked on several high precision particle tracking detectors, including the BaBar silicon vertex tracker and the SLD CCD vertex detector at the SLAC Linear Collider. Richman performed studies of heavy quarks for many years as a member of the CLEO experiment at the Cornell Electron Storage Ring (CESR).

Richman has a strong interest in teaching and has taught particle physics at advanced schools in the U.S., China, Europe, and Mexico, most recently at the Scottish Universities Summer School on Particle Physics. He has taught physics at all levels at UCSB, including elementary particle physics, quantum mechanics, thermodynamics and statistical mechanics, classical mechanics, electromagnetism, advanced laboratory, and analog and digital electronics. Richman has given many public lectures on particle physics and has presented physics in local elementary, junior high, and high schools. At UCSB he has taught a freshman seminar on "The Physics of the Large Hadron Collider: A Guide for the Perplexed." Richman currently teaches both undergraduate and graduate-level courses on elementary particle physics, and is developing a data analysis lab manual centered on how to discover the Higgs boson.