



## Dr. Steven E. Koonin

### Biography

Steven E. Koonin was appointed as the founding Director of NYU's Center for Urban Science and Progress in April 2012. That consortium of academic, corporate, and government partners pursues research and education activities to develop and demonstrate informatics technologies for urban problems in the "living laboratory" of New York City.

From May 2009 to November 2011, Koonin served as DOE's second Senate-confirmed Under Secretary for Science, where he functioned as chief scientific officer, coordinating and overseeing research across DOE. He led the preparation of DOE's 2011 Strategic Plan and was the principal author of its Quadrennial Technology Review. Koonin particularly championed research programs in high performance simulation; exascale computing; inertial fusion energy; and greenhouse gas monitoring, reporting, and verification. He also provided technical counsel on diverse nuclear security matters.

Koonin joined the California Institute of Technology's faculty in 1975, was a research fellow at the Niels Bohr Institute in 1976-1977, and was an Alfred P. Sloan Foundation Fellow from 1977 to 1979. He became a professor of theoretical physics at Caltech in 1981 and served as Chairman of the Faculty from 1989 to 1991. Koonin was the seventh provost of Caltech from 1995 to 2004. In that capacity, he was involved in identifying and recruiting a third of the Institute's professorial faculty. He left an enduring legacy of academic and research initiatives in the biological, physical, earth, and social sciences, as well as the planning and development of the Thirty-Meter Telescope project.

As the Chief Scientist at BP from 2004 to early 2009, Koonin developed the long-range technology strategy for alternative and renewable energy sources. He managed the firm's university-based research programs and played a central role in establishing the Energy Biosciences Institute at the University of California Berkeley, the Lawrence Berkeley National Laboratory, and the University of Illinois at Urbana-Champaign.

Koonin is a member and past chair of the JASON Study Group, advising the U.S. government on technical matters of national security. He has served on numerous advisory committees for DOE, the National Science Foundation, and the DoD, including the Defense Science Board and the CNO's Executive Panel. He is a member of the Council on Foreign Relations and a fellow of the American Physical Society, the American Association for the Advancement of Science, the American Academy of Arts and Sciences, the Trilateral Commission, and the U.S. National Academy of Sciences. In 1985, Koonin received the Humboldt Senior U.S. Scientist Award, and in 1998, DOE's E.O. Lawrence Award for his "broad impact on nuclear many-body physics, on astrophysics, and on a variety of related fields where sophisticated numerical methods are essential; and in particular, for his breakthrough in nuclear shell model calculations centered on an ingenious method for dealing with the huge matrices of heavy nuclei by using path integral methods combined with the Monte Carlo technique."