Charles M. Newman Biography

May 10, 2022. Patrick Charbonneau

Charles Michael Newman (March 1, 1946—) was born in Chicago, Illinois, USA, the son of Harry Newman, small business owner, and Dorothy Pollack Stein, homemaker and clerk.

Newman spent his youth in Chicago before attending MIT, in Cambridge, Massachusetts. There, he obtained two BSc degrees (1962-1966)—one physics and one mathematics— by writing a physics thesis entitled "High energy electrodisintegration of carbon" under the supervision of J. I. Friedman and H. W. Kendal. He then moved to Princeton for graduate studies, where he obtained an MA (1968) and a PhD (1971) for a thesis entitled "Ultralocal quantum field theory in terms of currents" under the supervision of Arthur Wightman. He was first assistant professor of mathematics at New York University (NYU; 1971-1973) and then at Indiana University (1973-1975), spending 1975 as a North Atlantic Treaty Organization postdoctoral fellow at the Technion in Haifa, Israel, with his Arizona colleague Prof. Lawrence Schulman. He was later promoted associate professor (1975-1979) and then professor (1979), before moving to the University of Arizona as professor of mathematics (1979-1990) and then Regents professor (1990), before moving again to the Courant Institute of Mathematical Sciences as a NYU professor of mathematics (1989-today). He notably served as chair of the NYU mathematics department (1998-2002) and director of the Courant Institute (2002-2006) as well as on editorial boards of various journals.

Newman's training in mathematical physics first focused on quantum field theory, but his independent career veered more towards problems in probability and statistical physics. While at the University of Arizona, he met Daniel Stein, with whom he developed a joint research effort at the interface between the mathematical and the theoretical physics of finite-dimensional spin glasses. With Stein, he has also co-authored the popular science book *Spin Glasses and Complexity* (2013).

Newman was a Sloan fellow (1978-1981) and a Guggenheim fellow (1984). He is a member of the US National Academy of Sciences (2004) and the American Academy of Arts and Sciences (2006) as well as a foreign member of the Brazilian Academy of Sciences (2007). In 2012, he became a fellow of the American Mathematical Society.