Joel L. Lebowitz Biography

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Joel Louis (Lojos) Lebowitz (May 10, 1930-) was born in Taceva, Czechoslovakia (now Tiachiv, Ukraine) son of Herman Lebowitz, a textile merchant, and Ida (née Katz). He initially received an orthodox Jewish education along with his secular schooling, and at 13 started attending a Yeshiva (1943-1944), before being interned and then transported to Auschwitz. Sole member of his immediate family to survive the Nazi death camp, he rejoined a Yeshiva in Romania (1945-1946), before emigrating to the United States in August 1946. Settling in Brooklyn, he joined Yeshiva Torah Vodath, where he completed the high school curriculum in a year and a half.

He then attended Brooklyn college and obtained a BS in physics in 1952. He pursued graduate studies in physics at Syracuse University, obtaining a MS for a thesis entitled "A moment singularity analysis of vibration spectra" (1955), under the supervision of Melvin Lax, and a PhD in theoretical physics for a thesis entitled "Statistical mechanics of nonequilibrium processes" (1956), under the supervision of Peter G. Bergmann. He followed on with a NSF postdoctoral fellow with Lars Onsager at Yale (1956-1957), before first joining the faculty at the Stevens Institute of Physics (1957-1959), and later becoming the first physics faculty member of the new Belfer Graduate School of Science of Yeshiva University (Assistant Professor, 1959-60; Associate Professor, 1960-65; Professor, 1965-77; Departmental Chair, 1968-76). In 1977, anticipating the School's closing, he joined Rutgers University, where he has since been George William Hill Professor of Mathematics and Physics as well as Director of the Center for Mathematical Sciences Research.

Lebowitz has made many seminal contributions to statistical mechanics and mathematical physics, including the so-called Lebowitz inequalities for the ferromagnetic Ising model. His more than 500 publications notably include the first attempt to formalize the solution of the Sherrington-Kirkpatrick model. Lebowitz has also been a lead organizer of the field. He served as editor-in-chief for the Journal of Statistical Physics (1975-2018), co-editor of the Phase Transitions and Critical Phenomena series (1980-2001), and convener of a biannual series of Statistical Mechanics Conferences since 1959. In parallel, he has been involved in various human rights pursuits.

Lebowitz is a fellow of the American Physical Society (1966), of the New York academy of Sciences and the American Association for the Advancement of Science (1983) as well as a member of the National Academy of Sciences of the USA since 1980. He has also received various recognitions for his work. He notably received the Boltzmann Medal (1992) "for his many important contributions to equilibrium and nonequilibrium statistical mechanics and for his leadership role in the statistical physics community"; the Henri Poincaré Prize (2000) "for his important contributions to various aspects of equilibrium and nonequilibrium statistical physics: stability of matter, correlation

inequalities, phase transitions, and approach to equilibrium, to mention just a few"; the Vito Volterra Medal of the Accademia Nazionale dei Lincei (2001); the Max-Planck Medal (2007) "Für seine bedeutenden Beiträge zur statistischen Physik der Gleichgewichts- und Nicht-Gleichgewichtssysteme, insbesondere für seine Beiträge zur Theorie der Phasenübergänge, der Dynamik unendlicher Systeme und der stationären Zustände im Nicht-Gleichgewicht. Ferner wird er dafür gewürdigt, dass er an vorderster Front neue Strömungen des Fachs gefördert und mit großer Begeisterung mehrere Generationen von Wissenschaftlern an das Gebiet herangeführt hat" [for his important contributions to the statistical physics of equilibrium and non-equilibrium systems, in particular his contributions to the theory of phase transitions, the dynamics of infinite systems, and the stationary non-equilibrium states]; the Grande Médaille 2014 de l'Académie des Sciences de France; and the Dannie Heineman Prize for Mathematical Physics (2021) of the American Institute of Physics and the American Physical Society "for seminal contributions to nonequilibrium and equilibrium statistical mechanics, in particular, studies of large deviations in nonequilibrium steady states and rigorous analysis of Gibbs equilibrium ensembles." Citations have further mentioned "his deep knowledge of science and his tireless energy to the service of our community by running the bi-annual statistical mechanics meetings and the Journal of Statistical Physics," and "his promoting of new directions of this field at its farthest front, and for enthusiastically introducing several generations of scientists to the field."

He has additionally received the Heinz R. Pagels Human Rights of Scientists Award of the New York Academy of Sciences (1996), the AAAS Award for Scientific Freedom and Responsibility (1998) "for his tireless devotion to the rights of scientists in oppressive regimes throughout the world and his extraordinary creativity in finding ways to help these scientists survive their ordeals", and the Nicholson Medal (2004) of the American Physical Society "for his tireless personal activism, throughout his superb career as a theoretical physicist, to help scientists and defend their human rights in countries around the globe".