

Ray Orbach Biography

July 18, 2022. Patrick Charbonneau

Raymond Lee Orbach (July 12, 1934—) was born in Los Angeles, California, the son of Morris Albert Orbach, a factory worker, and Mary Ruth Miller, a home maker, where he attended public schools, including Fairfax High School.

Orbach obtained a BSc in Physics from the California Institute of Technology (1952-1956), and then held a National Science Foundation pre-doctoral fellowship at the University of California, Berkeley from September, 1956 through January, 1960, obtaining a PhD for a thesis entitled “Some problems in spin wave theory in ferromagnets and antiferromagnets and in the generation and attenuation of microwave frequency phonons at low temperature”, under the supervision of Charles Kittel. He was a National Science Foundation post-doctoral fellow at Oxford University in the Clarendon Laboratory with Roger Elliott (1960-1961), before taking an assistant professorship at Harvard (1961-1963), and then moved to the University of California, Los Angeles, as associate professor, and became full professor in 1966. He held a National Science Foundation senior post-doctoral fellowship at Imperial College (1967-1968). For a decade, he served as Provost of the College of Letters and Science at UCLA (1982-1992), and then took up the Chancellorship of the University of California, Riverside (1992-2002), before serving as Director of the Office of Science at the Department of Energy (March 14, 2002-January 20, 2009) and as the first Under Secretary for Science in the Department of Energy (June 1, 2006-January 20, 2009). From August 1, 2009, he held the Cockrell Family Chair in Engineering until 2015, and then the Cockrell Family Dean’s Chair for Engineering Excellence until his retirement on August 31, 2019, at the University of Texas at Austin, where he was founding director of the Energy Institute (2009-2012). Since September 1, 2019, he serves as Professor-Modified Service, which is compensation free, allows him PI status on contracts and grants, and preserves full faculty privileges. Over the years, he has held a number of visiting appointments, notably as John Simon Guggenheim Memorial Foundation Fellow at Tel Aviv University (1973), as Joliot-Curie Professor in Paris at École de physique et de chimie industrielles de la Ville de Paris (1981-1982) and as Lorentz chair at the University of Leiden (1987).

Orbach was trained as a theoretical solid state physicist, but after starting his independent career, he quickly established a complementary experimental group. Throughout his research career, he has worked on a broad variety of problems in condensed matter physics, notably on fractal dynamics. His experimental interest for spin glasses began in the late-’70s, and persists to this day. Over these years, he has collaborated with a number of other experimental groups in France, notably that of Jacques-Michel Hammann and Éric Vincent at CEA-Saclay. More recently, has been working closely with the computation-centered Janus Collaboration in Spain and Italy.

Orbach is a fellow of the American Physical Society (1971) and of the American Association for the Advancement of Science (1982). He also was Andrew Lawson Memorial Lecturer at University of California at Riverside (1991-1992) and Arnold O. Beckman Lecturer in Science and Innovation at the University of Illinois at Urbana-Champaign (2004). He received the Outstanding Alumni Award from the California Institute of Technology (2005), and on November 3, 2009, the Science Library at the University of California, Riverside, was renamed the Orbach Science Library.