

Byron W. Southern Biography

November 18, 2021. Patrick Charbonneau

Byron Wayne Southern (June 13 1946—) was born in Toronto, Ontario , Canada, the son of Ernest Southern, a police sergeant, and Thelma Southern.

Southern attended Ontario public schools before heading to the newly-founded York University, in Toronto, where he pursued an interdisciplinary BSc with a physics concentration (1965-1969). He then joined the graduate program at McMaster, obtaining a MSc in Physics (1970) for a thesis entitled “Theory of Spin Waves in the heavy Rare Earth Metals” and a PhD in Condensed Matter and Materials Physics (1973) for a thesis entitled “Magnetoelastic Effects in Rare Earth Metals And Compounds”, both under the supervision of David A. Goodings. With postdoctoral fellowship support from the National Research Council Canada, Southern joined David Sherrington’s group at Imperial College (1973-1975), and later took up a staff scientist position in the Theory College of Institut Laue-Langevin (1975-1979). In 1979, Southern took up an assistant-professorship in physics at University of Manitoba, where he climbed through the faculty ranks and since 2017 is professor emeritus. Over the years, he notably took sabbatical leaves at Institut de Physique Théorique of the CEA (1986-1987), at University of California Santa Cruz (1992-1993), at Michigan State University (2000), and Memorial University of Newfoundland (2011).

Southern’s training as a condensed matter theorist with a focus on magnetic materials led him to Imperial College, which was also an early center for spin glass research. His modeling of the interplay between ferromagnetism and spin glass formation (with David Sherrington) is one the first analyses to follow in the footsteps of the Edwards-Anderson model. His later work on real-space renormalization group treatment of spin glasses (with Peter Young) is also an early effort to understand the impact of finite dimensionality on the mean-field description of spin glasses. After joining Manitoba, Southern largely left the field to work on other complex problems in magnetism, but kept abreast of advances in the study of spin glass for at least a decade.