Francesco Guerra Biography

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Francesco Guerra (1942-) was born in Naples, Italy, the son of Ugo Guerra, a civil servant, and Maria Francesca De Nictolis, a housewife.

Guerra first received a classical education at the Liceo Ginnasio Statale "Jacopo Sannazaro", and then studied at the University of Naples (1960-1964), where he obtained a Laurea summa cum laude in physics for a thesis on liquid helium, under the supervision of Eduardo Renato Caianiello. He was then a fellow of the Consiglio Nazionale delle Ricerche in Naples (1964-1966), and a researcher at Istituto Nazionale di Fisica Nucleare (section of Naples), before joining the University of Naples as professore incaricato (lecturer). From 1970 to 1972, he was a postdoctoral visitor at Princeton University, in the group of Arthur Wightman. He then climbed the faculty ranks up to full professor of theoretical physics at the University of Salerno, and then moved to the University of Rome "La Sapienza" in 1979, where he held the statistical mechanics chair until turning emeritus in 2013. He was a member of the mathematics (1979-1985), and then of the physics (from 1985) departments, serving as chair of one (1983-1984) as well as the other (1995-2001).

Guerra, for the first few decades of his career, mostly worked on the mathematical physics of quantum field theory. In the early 1990s, he embarked on an ambitious program to formalize Parisi's treatment of the Sherrington-Kirkpatrick model. His efforts at motivating the replica trick as well as his derivation of the Parisi ansatz as a lower bound to the free energy are particularly notable. Starting from the mid-2000s, his scholarship became increasingly focused on the history of Italian nuclear physics, especially on the lives and scientific contributions of Enrico Fermi and Ettore Majorana.

Guerra received the Prize for the History of Physics of the Società Italiana di Fisica in 2008, as was named Socio benemerito della Società Italiana di Fisica in 2013 for his contributions to theoretical physics and to the history of physics.