

LAUDATIO : Sergio FERRARA

Sergio FERRARA was born in Rome in 1945.

He studied at the University of Rome “La Sapienza”, and graduated in 1968 with a Thesis written under the supervision of prof. Marco Toller.

In 1970 he obtained a research position at the nearby INFN National Laboratories at Frascati.

In 1974-75, as was the case for many successful young researchers at the time, he left to become a Fellow at CERN, where he collaborated with a founding father of supersymmetry, Bruno Zumino. Together, they built the supersymmetric Yang-Mills theory, a cornerstone of all supersymmetric extensions of the Standard Model.

In 1976, with Daniel Freedman and Peter van Nieuwenhuizen, who are here with us today, he discovered the first instance of “Supergravity”, an elegant extension of Einstein’s General Theory of Relativity based on a more powerful symmetry principle. Their groundbreaking work, initiated during a common visit to the Ecole Normale Superieure in Paris, was followed shortly by an elegant reformulation, in a related paper by Stanley Deser of Brandeis University in the USA and Bruno Zumino. An entire new world, that we are still exploring today, had thus been unveiled for Theoretical Physics. And indeed, a Supergravity in eleven dimensions, discovered in 1978 by E. Cremmer, B. Julia, who is here with us today, and the late Joel Scherk of the Ecole Normale Superiore, is expected to subsume all the most arcane secrets of the Fundamental Interactions.

Sergio Ferrara has devoted all his subsequent career to elucidating the properties of supergravity, with special attention to its mathematical structure, to its applications to Particle Physics and to its links with String Theory. His contributions have marked many of the highest points of the CERN Theory Division in its fifty years of activity, and are too many and too varied to be properly mentioned here. Suffice it to say that his work has provided crucial inputs for such diverse aspects of Theoretical Physics as string dualities, black holes, supersymmetry breaking and the AdS/CFT correspondence.

Although in 1980 he was awarded a chair in Theoretical Physics in Italy, he continued to stay at CERN, first as a Junior Staff Member, and finally, since 1984, as a Senior Staff Member, a position that he still holds today.

Since 1985 he is also Professor of Physics, and since 1992 Distinguished Professor of Physics, at UCLA, the University of California at Los Angeles, in the USA.

Over the years he also contributed significantly to the activities of INFN, the key Institution behind scientific research in Italy, serving in particular for a long time in its National Council of Directors.

In 1991 he received the prize of the “Union Assurance de Paris”.

In 1993 he shared with Daniel Freedman and Peter van Nieuwenhuizen the Dirac Medal and Prize of ICTP. He was the first Italian citizen to receive this award, the most prestigious international prize reserved to Theoretical Physics. He was then followed in 1996 by Tullio Regge of Politecnico di Torino, and in 1999 by Giorgio Parisi, who is presently at the University of Rome “La Sapienza” but was for a long

time a Member of this Faculty. On the other hand, the first Italian (by birth, although an American citizen since long ago) to receive the award was Bruno Zumino of the University of California at Berkeley, in 1987.

May I be allowed to conclude briefly with a personal recollection.

For reasons that are not of interest here, I came close to Theoretical Physics in the early eighties, and not in Italy, but as a graduate student at Caltech, in the USA. As is often the case away from home, I quickly started to take great pride in the previous achievements of other Italians in my own field. The pride became enthusiasm when I learned that in 1976 a trio composed by Daniel Freedman, Peter van Nieuwenhuizen and Sergio Ferrara had discovered “Supergravity”. While the national pride brought me back home right after this University granted me an opportunity to return, some years earlier, during a visit to my parents, the enthusiasm for Supergravity led me to make a detour to Geneva, just to meet my hero.

I was a beginning graduate student at the time, while Sergio Ferrara was already a widely known scientist. When I reached him in his office, I started out rather shyly and formally, with technical considerations at the blackboard, as is typically the case for a young scientist in front of a more senior colleague. Sergio Ferrara, however, put me unusually at ease, and as a result the discussion soon became far richer and much more articulated. Most amusingly, by the end of the afternoon every formality was gone, and we were simply enjoying a nice dinner together and acting like two old friends.

This recollection is meant to convey to all of you a flavor of the unique personality of Sergio Ferrara: not only a great scientist, capable of stimulating scientific curiosity like no one else I am aware of, but also a real friend to many of us

here, who has cared to follow the careers of a generation of colleagues closely albeit discretely over many years. And, above all, a true pride for our Country!

And today he is also becoming a distinguished “colleague” for many of us here at the University of Rome “Tor Vergata”.

Ladies and Gentlemen, let us finally enjoy the “Lectio Magistralis” of prof. Ferrara, whose title is “The Legacy of Supergravity”.