

JOSÉ ENRIQUE MOYAL

CITATION FOR AN HONORARY DEGREE

Mr Chancellor, it is my privilege to present to you for a degree of the University, Professor Jo Moyal.

Jo Moyal studied electrical engineering in France, at Grenoble and Paris, in the early 1930s. He then worked as an engineer, later continuing his studies in mathematics at Cambridge, statistics at the Institut de Statistique, Paris, and theoretical physics at the Institut Henri Poincare, Paris.

After a period of research on turbulence and diffusion of gases at the French Ministry of Aviation in Paris, he escaped to London at the time of the German invasion in 1940. The eminent writer C.P. Snow, then adviser to the British Civil Service, arranged for him to be allocated to de Havilland's at Hatfield, where he was involved in aircraft research into vibration and electronic instrumentation.

His first academic appointment was in Mathematical Physics at Queen's University Belfast in 1946. He was later a lecturer and senior lecturer with Professor M.S. Bartlett FRS in the Statistical Laboratory at the University of Manchester. He has accepted invitations to visit, among others, the departments of Theoretical Physics at Sydney University, Mathematical Statistics at Columbia University, and Statistics at the University of California Berkeley and Stanford University.

In 1958, he joined Professor Pat Moran as Reader in the Department of Statistics, Institute of Advanced Studies for a period of 6 years. There he trained several graduate students, now eminent professors in Australia and the USA. In 1964, he returned to his earlier interest in mathematical physics at the Argonne National Laboratory near Chicago, coming back to Macquarie University as Professor of Mathematics before retiring in 1978.

Professor Moyal's interests are extremely broad: he is an engineer who made a fundamental contribution to the understanding of rubber-like materials, a mathematical physicist who originated the "Moyal bracket" in quantum mechanics, and a mathematical statistician responsible for the early development of stochastic processes. Among his most famous contributions in this area are his seminal paper to a Royal Statistical Society Symposium in 1949, and his frequently quoted work on discontinuous Markoff processes in *Acta Mathematica* in 1957. His systematic theory of population processes and multiplicative chains makes use of generating functional methods to track population size as well as the characteristics of individuals. Finally, he is a versatile mathematician who has researched the foundations of quantum field theory. In each of these fields, he is a thinker of the first rank, as the tributes from his colleagues and the hundreds of citations to his papers attest.

Professor Moyal has played a crucial role in the development of the theory of stochastic processes. His influence on his many students throughout the world, and in particular at the ANU have been profound. He is one of a diminishing breed of mathematical scientists working in a broad range of fields, in each of which he has made fundamental advances.

Mr Chancellor, it is with great pleasure that I present to you Jose Enrique Moyal, that you may confer on him the degree of Doctor of Science, *honoris causa*, on the ground of his distinguished creative achievement as a scholar in mathematical statistics and mathematical physics.

Professor M E Poole
Deputy Vice-Chancellor
The Australian National University
24 April 1997

JOSÉ ENRIQUE MOYAL

Diplomat de l'École Supérieure d'Electricité, Paris

Diplomat de l'Institut de Statistique in the University of Paris

Engineer and Mathematician

has this day been admitted, *honoris causa*, to the degree of

DOCTOR OF SCIENCE

on the ground of his distinguished creative achievement as a scholar in
mathematical statistics and mathematical physics

**Given under the Seal of
The Australian National University
this twenty-fourth day of April 1997**

VICE-CHANCELLOR

REGISTRAR