



Sathamangalam Ranga Iyengar Srinivasa Varadhan was born in Chennai in 1940. He completed his undergraduate education at the Presidency College, Chennai and received his B.Sc. Honours degree in Statistics from the University of Madras in 1959. He then joined the Indian Statistical Institute at Kolkata, where he earned his Ph.D. degree in 1963 for his research work on infinitely divisible probability measures on an infinite dimensional Hilbert space. He then migrated to the USA and joined the Courant Institute of Mathematical Sciences, New York University, where he is currently Professor of Mathematics and Frank J. Gould Professor of Science.

Though motivated by problems from mathematical physics and the theory of partial differential equations, Professor Varadhan is essentially a probabilist. One of the highlights of Professor Varadhan's scientific contributions is the construction of multidimensional diffusion processes based on the martingale method. This work, done jointly with D. Stroock, is still the most powerful technique in handling weak solutions of diffusion equations with non-smooth coefficients in both finite and infinite dimensions.

In a long and fruitful collaboration with M. Donsker, he founded a grand theory of large deviations in a very general setting. This theory, considered to be a mathematical *tour de force*, is much more subtle than the classical theory of limit laws in probability such as the law of large numbers and the central limit theorems. It combines probability theory with convex analysis, nonlinear programming, functional analysis and partial differential equations. The large deviation principle enunciated in this theory has wide ranging applications from actuarial sciences to mathematical physics. It led to his settling Pekar's polaron conjecture and to doing impressive work in the area of hydrodynamic scaling limits, earning him the title of Grand Master of Large Deviations.

Professor Varadhan has held visiting positions in several prestigious institutions. He has received the Alfred P. Sloan Fellowship and the Guggenheim Fellowship. He won the Birkhoff Prize (1994), the Margaret and Herman Sokol Award of the Faculty of Arts and Sciences, New York University (1995), the Leroy Steele Prize of the American Mathematical Society (1996) and the Abel Prize of the Norwegian Academy of Science and Letters (2007). The Government of India has recently honoured him with the *Padma Bhushan*.

Professor Varadhan has been elected fellow of several scientific academies such as the American Academy of Arts and Sciences (1988), the Third World Academy of Sciences (1988), the National Academy of Sciences, USA (1995), Institute of Mathematical Statistics, USA (1991), the Royal Society, London (1998), the Indian Academy of Sciences (2004) and the Indian National Science Academy (2008).

That Professor Varadhan, whose mathematical career started in India, has risen to great heights by his achievements is a source of immense pride to all Indians and he is a role model for our future generations. The Chennai Mathematical Institute is indeed privileged to honour Professor S. R. S. Varadhan by conferring on him the degree of **Doctor of Science (Honoris Causa)**.

