
Louis Nirenberg (1925–2020)*

Louis Nirenberg was born on 28 February 1925 in Hamilton, Ontario, Canada and graduated with a B.S degree from McGill University in 1945 with majors in both mathematics and physics, and went on to obtain his PhD in Mathematics from New York University in 1949. The next seventy years were spent at the Courant Institute in transforming the field of partial differential equations with his insights and skillful use of inequalities, and apart from being a prolific mathematician, he was also among the most collaborative.

His contributions and personality are perhaps best summarized by looking at the citation of the Steele Prize for Lifetime Achievement that he received from the American Mathematical Society in 1994. It mentions his *numerous basic contributions to linear and nonlinear partial differential equations and their applications to complex analysis and differential geometry*, highlights his mastery *in obtaining and applying a priori estimates in all fields of analysis* and continues by touching upon some of the high points of his work such as the Gagliardo–Nirenberg inequalities, a priori estimates for general linear elliptic systems (with Agmon–Douglis), functions of bounded mean oscillation (with Fritz John), the Newlander–Nirenberg theorem on the integrability of almost complex structures, the regularity of free boundary problems (with Kinderlehrer–Spruck), solutions to Monge–Ampere type equations (with Caffarelli–Spruck), singular sets for the Navier–Stokes equations (with Caffarelli–Kohn) and moving plane methods for studying the symmetry of solutions to certain non-linear equations (with Gidas–Ni–Berestycki). It ends by noting that *in addition to his own research, Nirenberg has had over forty PhD students and that his boundless enthusiasm and encouragement have served as an inspiration to several generations of younger mathematicians both at the Courant Institute and worldwide.*

He was also honored with the first Crafoord Prize in 1982, the National Medal of Science in 1995 and the first Chern Medal of the International Mathematical Union in 2010 among several others.

Kaushal Verma

Department of Mathematics
Indian Institute of Science
Bangalore 560 012, India.
Email: kverma@iisc.ac.in

*Vol.25, No.6, DOI: <https://doi.org/10.1007/s12045-020-0992-0>

