

MEMORIAL RESOLUTION**VINAY DEODHAR****(December 3, 1948 – January 18, 2015)**

Vinay Deodhar was born in Bombay, India on December 3, 1948. He attended Bombay University and received his doctoral degree from there in 1974 with Madabusi Raghunathan. He was a research fellow at the Tata Institute of Fundamental Research for a year after receiving his degree and then was a visiting member at the Institute for Advanced Study in Princeton from 1975 to 1977. He then returned to the Tata Institute, one of the great centers of mathematics in the world, which remained for him the standard of excellence. He was a Fellow at the Tata Institute from 1977 to 1982, spending one year as a Research Fellow at the Australian National University in Canberra and visiting Indiana University in 1981. He joined the faculty the following year as an associate professor. He was awarded tenure two years later and became a full professor in 1988. He retired in 2012.

Vinay made fundamental contributions to mathematics, particularly Lie theory. While still a student he wrote up a highly influential set of notes based on lectures by Robert Steinberg. In 1978 he was awarded the Young Scientist Award from the Indian National Academy. Vinay wrote several highly influential papers on the (weak) Bruhat order on Coxeter groups. In the motivating case of symmetric groups this can be understood as follows. The length of a permutation A is the minimal number of times a consecutive pair of elements must be exchanged in order to achieve A . There may be several different ways to realize A by consecutive transpositions in this smallest possible number of steps. All the permutations obtained as intermediate steps along any of these sequences are considered to be less than A . His work on the Bruhat order is inextricably connected with the development of the Kazhdan-Lusztig polynomial, which plays a central role in modern representation theory. Vinay was one of the developers of Kazhdan-Lusztig theory (and in fact he coined the term) and did important work on the geometry of flag varieties. In 1992 he edited a volume of the AMS series *Contemporary Mathematics* on the subject.

Vinay showed a great commitment to teaching. He was a very popular and successful teacher, particularly in the department's honors undergraduate courses and at the graduate level, and was known for the clarity of his lectures. In 1998 he earned our highest teaching award, the Rothrock award. He was also active in our mentoring program and helped many of our postdoctoral faculty to become better instructors. He was in fact head of the program for several years during the time the department was involved in the National Science Foundation-funded Vertical Integration of Research and Education in the Mathematical Sciences program. He was also director of graduate studies from 1990 to 1992, a job he took very seriously, especially in the selection of new graduate students. He supervised three Ph. D. students of his own, all of whom remain academic mathematicians: Dijana Jakelic, at the University of North Carolina Wilmington; Wansoon Kim, at Hoseo University, in South Korea; and Yi Ming Zou, at University of Wisconsin Milwaukee, who have given Vinay the distinction of having mathematical grandchildren.

Vinay was greatly devoted to his family; his wife Vineeta and his two children, Abhijit and Aditi, both of whom have been students here at IU. In his last years on our faculty he showed exceptional courage dealing with illness while continuing his distinguished teaching and mentoring. He passed away on January 18, 2015, in Bloomington.

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