

Hemanshu Kaul
Professor of Applied Mathematics
Illinois Institute of Technology, Chicago



Hemanshu Kaul is a professor in the Department of Applied Mathematics at Illinois Institute of Technology, Chicago. He did his schooling in cities all over north India, followed by studies at St. Stephen's College, Delhi, Indian Institute of Technology Bombay, and a PhD in Mathematics from University of Illinois at Urbana-Champaign.

Prof. Kaul is an active researcher in Discrete Mathematics, especially Graph Theory, Network Optimization, and related models, algorithms, and interdisciplinary applications in transportation networks, health networks, and computer science, as well as models and algorithms for equitable allocation of resources. He has written over 50 peer-reviewed papers in international journals in these fields, with major contributions in Graph packing with best results towards the long-standing Bollobas-Eldridge conjecture; in Graph coloring with development of enumerative functions for various generalized notions of coloring and their algebraic and probabilistic connections to extremal problems; in Approximation algorithms in graph optimization; in Models and Algorithms for equitable resource allocation and network design. His research work has been recognized with more than 70 invited talks in conferences, colloquia, and seminars in the USA, Canada, China, India, and South Korea.

Prof. Kaul has over 20 years of teaching experience with 15 distinct courses over the whole range of the curriculum from first year undergrads to advanced PhD students. He has also developed several new, pedagogically innovative courses at both undergraduate and graduate levels, new graduate degree programs, and an undergraduate scholarship in the intersection of mathematics and computer science. His teaching has been recognized with the Board of Trustees Award for Excellence in Teaching 2019 (university-wide award), the Excellence in Teaching Award 2017 for College of Science, and been honored as a Distinguished Teaching Fellow for the College of Science.

Mentorship of students and young researchers is especially important to Prof. Kaul. He has been an advisor to 8 graduated PhD students and 2 current PhD students; research advisor to 6 graduated M.S. students and 1 current M.S. student. He has been invited as an expert external examiner for 9 PhD theses at universities in the USA, India, Singapore; and, as member of 15 other PhD committees from Applied Math, CS, Chemical Engg, and ECE at Illinois Tech. He is also active in mentoring undergraduate students in mathematical research and in international mathematical and data science modeling competitions. Several of his graduate and undergraduate students have been recognized by awards for their scholarship.