CITATION FOR PROFESSOR TOH KIM CHUAN
UNIVERSITY RESEARCH RECOGNITION AWARD

Professor Toh Kim Chuan is widely recognised in the computational optimisation community, and is among the world's leading figures in semidefinite programming (SDP), a major development in optimisation since the 1990s.

In a series of papers he worked together with his collaborators in Cornell University, Kim Chuan designed, analysed and implemented highly efficient and robust primal-dual interior-point algorithms for solving SDPs, which culminated in the general purpose SDP software, SDPT3. To date, this has been used to solve SDPs in a wide array of areas ranging from antenna array and filter design in electrical engineering to machine learning and computer vision in computer science, from truss topology design and limit analysis of structures in civil engineering to covariance matrix estimation in statistics, as well as in areas such as sensor network localisation and quantum information.

For his fundamental contributions to the theory, practice and application of convex optimisation, Kim Chuan was awarded the 2017 Farkas Prize of the INFORMS Optimization Society. Recently, he was also selected as a Fellow of the Society for Industrial and Applied Mathematics, Class of 2018.

This evening, we are proud to present the University Research Recognition Award to Professor Toh Kim Chuan for his achievements. Congratulations!