Frank Kelly has made a lasting mark in a broad spectrum of fields, ranging from Applied Probability and Stochastic Operations Research to Networking and Internet Modeling. As a PhD student, Kelly already made groundbreaking contributions to the theory of product-form queueing networks. His 1979 book entitled *Reversibility and Stochastic Networks* has become a classic, inspiring much further theoretical research and finding numerous applications in a wide range of areas, including computer-communication networks, production & logistics, biology and chemistry.

Kelly's main research interests are in random processes, networks and optimization, with an emphasis on the design and control of networks and the understanding of self-regulation in large-scale systems. His work is characterized by extremely penetrating combinations of fundamental physical or economic principles. Much of his research is strongly inspired by performance issues in communication networks, and provided the mathematical foundations of key concepts such as dynamic routing schemes, effective bandwidths, pricing mechanisms and Internet rate control algorithms. Many of the concepts that Kelly has developed have also found widespread applications in other domains. As Chief Scientific advisor of the Department for Transport of the British government, he has transferred his knowledge of intelligent routing and congestion pricing to road traffic networks.

Frank Kelly is Professor of the Mathematics of Systems in the University of Cambridge (UK) and Master of Christ’s College. He has served the scientific community in many ways: as editor of a large number of journals, as thesis advisor of many strong PhD students, and as advisor of various industrial and academic institutions (for example, he has always maintained strong ties with EURANDOM, sharing research interests with many Eindhoven probabilists).

Kelly has received broad recognition for his research accomplishments. In 1989 he was elected a Fellow of the Royal Society, and in 1991 he was the recipient of the Lanchester Prize of INFORMS. He received an honorary doctorate of Science from Heriot-Watt University (Edinburgh) in 2001. In 2005 he received the IEEE Koji Kobayashi Computers and Communications Award, in 2008 the John von Neumann Prize of INFORMS, and in 2009 the ACM SIGMETRICS Achievement Award and the EURO GOLD medal of the Association of European Operational Research Societies.

Also on behalf of the co-proposers Sem Borst and Remco van der Hofstad: It gives us great pleasure to award Professor Kelly an honorary doctorate from our university, in recognition of his outstanding achievements in mathematics, networking and optimization. Eindhoven University of Technology is proud to add Frank Kelly’s name to its list of honorary doctorates.