

SHEPHARD PRIZE: citation for Des Higham

Short citation:

A Shephard Prize is awarded to Professor Des Higham, FRSE, of the University of Edinburgh. Higham has sought to make the theory, application, and insights from network science accessible to wide audiences, with much effort invested in public events and transparent descriptions. He is a natural communicator and presents in an engaging way, highlighting some intriguing paradoxes.

Long citation:

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Des Higham has analysed four distinct paradoxes for directed networks, and has considered novel classes of centrality measure, giving further positive results, counterexamples and open questions. He was one of the first applied mathematicians to join the emerging field of network science. His 2003 SIMAX article (highlighted as a SIAM SIGEST paper) gave the first rigorous analysis of the Watts-Strogatz small world effect, and he has co-authored seminal, and influential, contributions to centrality measures for time-dependent networks and to the combinatorics of nonbacktracking walks. Hence, the centrality-friendship work can be viewed as the culmination of a high-profile and highly accessible programme of work, making him an outstanding candidate for the award.

Higham is a very clear and effective communicator addressing both public and academic audiences. He has also been influential with UK companies within the digital marketing and advertising sector, achieving notable impact by enabling them to exploit modern advances in network theory, and dynamical, evolving, networks.

Over many years Des Higham has cooperated with quite a wide number of mathematicians drawn from many subdisciplines. His open mindedness and 'responsive mode' has made him the ideal collaborator for many. He is pleasantly challenging to both colleagues and students, and communicates and comments with a good measure of droll understatement.