4-Year PhD studentships in Mathematical Models and Algorithms for Managing Airport Capacity

"Mathematical Models and Algorithms for Allocating Scarce Airport Resources" (OR-MASTER) is a six year Programme Grant funded by the Engineering and Physical Sciences Research Council (EPSRC). OR-MASTER aims to develop new mathematical models and algorithms for solving complex, large-scale resource allocation problems, with the ultimate goal of developing innovative decision support capabilities for airport capacity allocation and management. These studentships provide great opportunities for individuals to develop their mathematics/computer science skills while making a contribution to an area of immense importance to society.

The Programme represents a strong partnership between academia and the air transport industry. Over the six years of the Programme, OR-MASTER will involve close collaboration with a host of international organisations (including airports, air traffic management organisations, airlines, ground handling services providers and global security organisations; international research centres and research networks) that will support the project, providing real-world data, insights and expertise. There will be opportunities to work closely with our partners.

At Lancaster, OR-MASTER will be undertaken by the Centre for Transport and Logistics Research (CENTRAL) a newly established Research Centre in the Department of Management Science, and will link into existing Operational Research-related development initiatives and expertise such as: the STOR-i Doctoral Training Centre and the Lancaster Data Science Institute. Professor Konstantinos G. Zografos at Lancaster University is the Principal Investigator and overall Programme Director. Professors Kevin Glazebrook (Lancaster) and Edmund Burke (Leicester) are the two Programme Co-Investigators. Professor Burke leads the OR-MASTER Programme at Leicester.

There are studentships available to study at Lancaster University (Management School) or Leicester University. The studentships include payment of full tuition fees plus stipend at the EPSRC rate.

Lancaster's candidate requirements: Students are normally expected to have a 2.1 or 1st class honours degree*in a quantitative area (including operational research, mathematics, physics, computer science and engineering) from a UK University or have a qualification of equivalent standard from an overseas university. While programming skills together with some background in optimization and/or stochastic modelling are an advantage, there will be opportunity to develop these to meet the requirements of the work. The student is expected to be a team player with the ability to work as part of a team and independently, and to have good analytical and communication skills.

For further information please contact: Professor Konstantinos Zografos (k.zografos@lancaster.ac.uk)

Leicester's Candidate requirements: Students are normally expected to have a 2.1 or 1st class honours degree in Computer Science, Mathematics or related discipline, from a UK University or an equivalent standard from an overseas university. The successful candidate must have a strong programming background, as well as good analytical and communication skills. The student is expected to be a team player with the ability to work as part of a team and independently, and to prepare clear reports and research papers. An understanding of mathematical optimization techniques, heuristic and hyper-heuristic search is highly desirable.

The complete application consisting of a cover letter (that includes a statement of your commitment to the project), curriculum vitae, transcripts and contact details of appropriate referee. The application needs to be sent to the indicated contact address before the closing date of 31st December 2019 and 15th February 2020.

*Those applying without a Masters degree will be considered for the Integrated PhD programme (MRes + PhD), whilst those with a Masters will be considered for the standard PhD.