



Person Specification

This form lists the essential and desirable requirements needed in order to do the job.

Applicants will be shortlisted **solely** on the extent to which they meet these requirements.

Job title: Research Officer in Algorithms and Optimisation

Department/Division: Department of Mathematics

Accountable to: Head of Department

| Competency | Criteria | E/D |
|---|--|-----|
| Knowledge and Experience | Successful completion (or near completion) of PhD in a discipline relevant to optimisation, such as Mathematics, Computer Science, or Operations Research. | E |
| | Demonstrates comprehensive knowledge and experience in areas relevant to the project "Usable Algorithms in Network Optimization": the theoretical and algorithmic understanding of fundamental problems in discrete optimisation. | E |
| | Evidence of developing a body of good quality publications, in well-recognised peer reviewed outlets, through independent original research. | E |
| | Research expertise in some of the following topics: <ul style="list-style-type: none"> • approximation algorithms (especially based on convex relaxations) • fundamental network design problems, (e.g., Steiner tree, robust network design, the travelling salesman problem) • fast / strongly polynomial algorithms for network optimization problems • dynamic (time-varying) traffic models • scheduling • probabilistic / game-theoretic aspects of optimisation | D |
| Communication | Excellent written and oral communication skills, including an ability to place one's specialist work within a broader context and to communicate research findings effectively to a range of audiences. | E |
| Investigation, analysis and research | Ability to analyse and research complex ideas, concepts or theories. | E |
| Planning and organisation | Ability to take a significant role in pursuing the activities and objectives of the research project. | E |
| | Evidence of good time and workload management and planning skills, setting priorities and committing to delivery within deadlines. | E |



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| Teamwork and motivation | A commitment and demonstrated ability to work as part of a collaborative research team in assisting the smooth running of the project. | D |
| | Ability to take responsibility for, and work independently on, specific project tasks, consulting and reporting to colleagues appropriately. | D |
| | A flexible and creative attitude to work. | D |
| | Willingness to travel within the United Kingdom and beyond to conduct research and attend conferences. | D |
| Liaison and networking | Evidence of experience of participation in academic events. | D |
| | Demonstrated ability to initiate and build and maintain a collaborative network of contacts. | D |

E – Essential: requirements without which the job could not be done.

D – Desirable: requirements that would enable the candidate to perform the job well.