

Two Fully funded PhD positions in Operations Research: Design of flexible public bus services for smart cities

The KU Leuven Mobility Research Center (L-Mob) and the University of Antwerp Operations Research Group (ANT/OR) each have a vacancy for a doctoral student in a joint research project.

This PhD research is practically oriented and carried out in collaboration with Belgian and Dutch bus operators. The research topic is situated in the domain of operations research (operational research (OR), “besliskunde”, operations management, distribution logistics).

Position:

- a four year fully funded doctoral research position at KU Leuven or Antwerp University;
 - (80%) scientific research in the field of operations research;
 - (20%) educational tasks: seminars, workshops, thesis coaching, etc.;
 - attending conferences, visiting international partners, etc.
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Topic:*Design of flexible public bus services for smart cities*

Currently, most public bus systems offer almost the same service all day long, even when the demand clearly changes throughout the day. This is rather rigid and inefficient. However, in the near future, in many ‘smart cities’, it will be possible both for potential passengers to explicitly state their destination, requested arrival time, etc., and for a bus operator to communicate bus arrival times and other information in real-time to its passengers and drivers. This allows to make public bus services much more flexible and efficient.

Therefore, in this project, we focus on making bus services flexible by allowing on-line changes to the routes, stops and timetable. We will explore the possibilities and develop mathematical models and optimization techniques to fully exploit the opportunities of flexibility. Then, we will evaluate under which circumstances different types of flexibility should be considered for practice. The goal is to obtain a more efficient, flexible and demand oriented public bus system.

This is a research project funded by FWO-Vlaanderen.

Practical:

The starting date of these research positions is preferably as soon as possible, but anything between March 1 and October 1, 2019, can be discussed. The candidate should

have a master degree in engineering, business engineering, computer science, informatics or applied mathematics and have an interest in practical applications of quantitative techniques and operations research. Basic programming skills are required. He/She should be able to write (and teach) in English. Speaking Dutch is an advantage.

You will become part of a dynamic international research group with other PhD students at KU Leuven or Antwerp University, all working on applying operations research on (closely) related practical problems.

More information about our research can be found here: <http://www.mech.kuleuven.be/en/cib/imresearch/pps> (KU leuven) or here: <http://antor.uantwerpen.be> (UAntwerp).

For any questions about this vacancy, please send an email to both Pieter and Kenneth: Pieter.vansteenwegen@kuleuven.be and Kenneth.sorensen@uantwerpen.be.

If you want to apply, you should contact both Kenneth and Pieter as soon as possible and certainly before March, 1, 2019. Please let us know if you have a preference for working at KU Leuven or Antwerp University. Also if you graduate only in June (or September) 2019, you can already apply.