



Research Training Group 1855  
Discrete Optimization of Technical  
Systems under Uncertainty

## WORKSHOP ORGANIZATION

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## IMPORTANT DATES

Submission of Abstracts: July 1, 2015  
Notification: August 1, 2015  
Workshop: Sept. 23, 2015

## Call for Papers and Announcement

### International Workshop Vehicle Routing under Uncertainty

**September 23rd, 2015 Dortmund, Germany**

Workshop homepage: <http://grk1855.tu-dortmund.de/cms/de/home/vru2015/>

Vehicle Routing Problems (VRPs) are hard combinatorial optimization problems with real applications in many areas where goods have to be collected or delivered. Different variants and extensions of VRPs exist to model practical situations. Although the computation of the optimal solution even for the simplest forms of VRPs is NP-complete, nowadays several approximate and heuristic algorithms are available to solve even larger instances of the different variants of VRPs with sufficient accuracy.

However, in most practical situations, the knowledge about system parameters like travelling times, customer demands or time windows is incomplete or changes over time. The resulting uncertainty about the system is usually not considered in the optimization problem which may result in too optimistic or even wrong results.

There is a need for approaches that consider uncertainty in the VRP and compute optimal solutions with respect to the incomplete knowledge about the system. Different variants of modeling uncertainty exist that include stochastic approaches and parameter bounds. Although VRPs with parameter uncertainties are even more complex to solve than fully specified deterministic VRPs, nowadays applicable algorithms exist to solve such VRPs of a moderate size.

The workshop shall bring together researchers that work on different aspects of VRPs under uncertainty.

### Topics of the workshop include:

- Modeling of uncertainty in VRPs
- Stochastic VRPs
- Robust VRPs
- Dynamic VRPs
- Application of VRPs with uncertainty
- Algorithms to solve VRPs with uncertain parameters
- Software for the analysis of VRPs with uncertain parameters

The workshop program consists of talks of 30 minutes duration and leaves room for discussions.

It is planned to have invited and contributed talks.

### Invited presentations:

- tba

### Submissions:

Contributions are solicited in the mentioned or related areas. A short abstract of 1 or 2 pages about a potential talk at the workshop should be sent to the workshop organizers via email ([peter.buchholz@cs.tu-dortmund.de](mailto:peter.buchholz@cs.tu-dortmund.de)) by the 1<sup>st</sup> of July 2015. Upon acceptance it is possible, but not mandatory, to submit a longer version. Abstracts and slides will appear in an internal research report of the TU Dortmund which is given to all contributors of the workshop.

### Participation:

Potential participants are invited to come to the workshop. No fees will be imposed.