

# Nicolas Zufferey

Geneva School of Economics and Management (GSEM)  
Université de Genève, Suisse/Switzerland



## IMPACT OF ONLINE TRACKING ON VEHICLE ROUTING WITH DYNAMIC TRAVEL TIMES: AN APPLICATION IN THE PICK-UP OF BLOOD SAMPLES

**Abstract:** This talk analyzes the impact of vehicle tracking devices, such as global positioning systems, on a vehicle routing problem with time windows in the presence of dynamic customer requests and dynamic travel times. It is empirically demonstrated that substantial improvements are achieved over a previously reported model which does not assume such tracking devices. We also analyze how the system handles dynamic perturbations to the travel times that lead to earliness or lateness in the planned schedule. The benefit of the approach is illustrated for the pick-up of blood samples and the delivery of medical items, for which unusual time windows are considered.

**Note:** Nicolas Zufferey is a full professor of operations management at the University of Geneva in Switzerland. His research activities are focused on designing metaheuristics for difficult and large combinatorial optimization problems, with applications mainly in transportation, scheduling, production, inventory management, network design, and telecommunications. He is member of the CIRRELT transportation and logistics research center ([www.cirrelt.ca](http://www.cirrelt.ca)) and of the GERAD decision analysis research center ([www.gerad.ca](http://www.gerad.ca)). He received his BSc and MSc degrees in Mathematics at EPFL (the Swiss Federal Institute of Technology in Lausanne), as well as his PhD degree in operations research (2002). He was then successively a post-doctoral trainee at the University of Calgary (2003 – 2004) and an assistant professor at Laval University (2004 – 2007). He is the (co)author of more than 70 publications (papers in professional journals, proceedings of conferences, and book chapters) and has reviewed papers for 35 international journals. With roughly 40 coauthors, he has had research activities with 18 Universities in Europe and North America, as well as with 13 private companies.

[N.Zufferey@unige.ch](mailto:N.Zufferey@unige.ch) et/and <http://www.unige.ch/gsem/iom/members1/professors/zufferey-nicolas/>

JEUDI / THURSDAY

4 août 2016 /  
August 4th, 2016  
10h30

Salle / Room 5441  
Pavillon André-Aisenstadt  
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer  
Jean-Yves Potvin