



# Joint Webinar CIRRELT, MobilOpt and Canada research chair in integrated logistics



Anand Subramanian  
Universidade Federal da Paraíba (UFPB), Brazil



Faculty of Business Administration  
MobilOpt: Mobility Optimization



Canada research chair  
in integrated logistics

## CONFERENCE SCHEDULING: A CLUSTERING-BASED APPROACH

**Abstract:** Scheduling the technical sessions of scientific events is an arduous task commonly faced by many organizers worldwide. Due to the particularities of each conference, there is no consensus regarding the problem definition, and researchers have tackled each specific case individually. Despite their distinct characteristics, one often expects the sessions to be composed of presentations of similar scope. This natural assumption led us to define a basic yet sufficiently general version of the problem that aims at maximizing the benefit of clustering papers with common topics in the same session while leaving the particularities of the event to be addressed using side constraints. In this talk, we will present three mathematical formulations based on integer linear programming for the problem, which is shown to be NP-hard. The first model consists of a compact formulation, whereas the second and third serve as underlying formulations for branch-and-cut and branch-cut-and-price algorithms, respectively. We will also present an efficient matheuristic approach for solving instances of larger size. The developed algorithm integrates the concepts of iterated local search and simulated annealing with two mathematical programming-based procedures. Computational results are reported for real-life and artificial instances derived from three conferences, including the Brazilian OR Conference.

**About the speaker:** Anand Subramanian is an Associate Professor at Universidade Federal da Paraíba (UFPB), Brazil. He received his B.Sc. degree in Mechanical Production Engineering from UFPB in 2006 and his M.Sc. degree in Production Engineering in 2008 from the same institution. He obtained his D.Sc. degree in Computing in 2012 from the Universidade Federal Fluminense (UFF), Brazil. His D.Sc. thesis was selected as one of the top 3 of Brazil in the field of Computer Science, and he received an Honorable Mention award from the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), on behalf of the Brazilian Ministry of Education. His research interests are mainly related to developing heuristic, exact and hybrid algorithms for combinatorial optimization problems. Anand is an author of more than 50 articles published in highly-ranked international journals. In 2016 he received the highly cited research award from Elsevier for the paper "A hybrid algorithm for a class of vehicle routing problems," as one of the top 5 most cited papers in Computer & Operations Research (C&OR) from 2014 through 2016. He has been a member of the Editorial Advisory Board of C&OR since 2019. Anand is the organizer and host of the "Subject to" podcast.

<https://ulaval.zoom.us/j/61039895846?pwd=TTBtOUhWNVZtUll0UmdaZk4vVDBHUT09>

Meeting ID: 610 3989 5846 Passcode: 538028

JEUDI / THURSDAY

14 octobre / October 14th

10h00

Ouvert à tous  
Open to all

Responsables / Organizers

Maryam Darvish - Leandro Coelho