スケジューリング学会主催 国際セミナー

Special Seminar on Transportation and Logistics

日時: 2016年7月14日(木) 13:30-17:00

場所:大阪大学中之島センター 10Fメモリアルホール (〒530-0005 大阪市北区中之島 4-3-53) アクセス: https://www.onc.osaka-u.ac.jp/others/map/index.php

プログラム:

時間:13:30-15:00

講師: Prof. Pitu Mirchandani (Arizona State University)

演題: Routing, Logistics and Management of Recharging Infrastructure for Electric Vehicles

概要: There is much reason to believe that many individuals and organizations will transform their vehicles to ones that utilize alternative fuels which are more sustainable. The electric vehicle (EV) is a good candidate for this transformation, especially which "refuels" by exchanging its spent batteries with charged ones. Unfortunately, although there is much research gone into technologies of EVs, little effort have gone into designing the battery charging-/ exchanging- infrastructure. This presentation discusses the issues that must be addressed, principally the issues related to the limited driving range of each electric vehicle's set of charged batteries and the possible detouring for battery exchanges. In particular, the talk will address the optimization and analysis of infrastructure design alternatives dealing with (1) the routing of vehicles from origins to destinations, (2) the optimum locations of battery-exchange stations, and (3) the recharging capacity and operations management of battery-exchange infrastructure. Some infrastructure design and optimization models, and some results, will be discussed in the presentation.

時間:15:30-17:00

講師: Prof. Stefan Voß (University of Hamburg)

演題: Matheuristics: A Tutorial with Applications in Transportation and Logistics

概要: Matheuristics are heuristic algorithms made by the interoperation of metaheuristics and mathematical programming (MP) techniques. That is, we are concerned with works that are, e.g., exploiting mathematical programming techniques in (meta)heuristic frameworks or with granting to mathematical programming approaches the cross-problem robustness and constrained CPU-time effectiveness which characterize metaheuristics. Popular matheuristics include the corridor method, POPMUSIC and generalized local branching. Common features use local search based candidate solutions by means of a fully-fledged optimization method generating optimal solutions over appropriately designed neighborhoods. That is, neighborhoods are constructed to be suitable domains for the optimization method used. We clarify differences and commonalities of these methods and exemplify by problems in transportation and logistics, and especially transportation network design and in maritime shipping.

レセプション17:30-19:30 (無料)

参加費: 6/30 まで: 会員・学生 無料, 非会員 3000 円 7/1 以降: 会員・学生 2000 円, 非会員 5000 円 申込み方法:氏名,所属,会員資格, レセプションへの参加の有無を記載の上,以下のメールアドレス に参加申込みをお送りください。事前参加申込みは6月30日までとします。 申込先:スケジューリング学会事務局 Email: office@scheduling.jp



DR. PITU B. MIRCHANDANI

Dr. Pitu B. Mirchandani [BS/MS degrees in Engineering, UCLA; S.M/ScD. Degrees, Operations Research, MIT] is a Professor of Computing, Informatics, and Decision Systems Engineering at Arizona State University (ASU) where he holds the AVNET Chair for Supply Chain Networks. He is also a Senior Sustainability Scientist within the Global Institute of Sustainability and the Director of Advanced Transportation and Logistics Systems (ATLAS) Research Center. For close to 40 years, Pitu Mirchandani has been studying relevant problems on *Dynamic Stochastic Networks*, with interests in models and

systems for making strategic/tactical/operational decisions in dynamic and stochastic networked environments. Problems related to traffic flows on transportation networks can be typically addressed as such. Mirchandani's contributions are in: (1) *Location Decision Modeling*, (2) *Traveler and Vehicle Routing Models*, (3) *Real-time Data-Driven*

Decision Systems, and (4) general theoretical contributions to OR modeling, methods and algorithms. He has authored/co-authored four books and approximately 200 articles. Dr. Mirchandani is a lifetime member of IEEE, a member of INFORMS, IIE, TRB, and a charter member of ITS-Arizona, where he was awarded the "Member of the Year" in 2007. He became a Fellow of INFORMS in 2015. Dr. Mirchandani has been a principal investigator on a large number of research programs. Notable recent projects are in Real-Time Proactive Traffic Management, Adaptive Ramp Metering, Evacuation Traffic Management, Remote Sensing of Transportation Flows, and Infrastructure Design and Operations of Electric and Alternative Fueled Vehicles.



Dr. STEFAN VOß

Stefan Voß is professor and director of the Institute of Information Systems at the University of Hamburg. Previous positions include full professor and head of the department of Business Administration, Information Systems and Information Management at the University of Technology Braunschweig (Germany) from 1995 up to 2002. He holds degrees in Mathematics (diploma) and Economics from the University of Hamburg and a Ph.D. and the habilitation from the University of Technology Darmstadt. His current research interests are in quantitative / information systems approaches to supply chain management and logistics including public mass transit and telecommunications. He is author and co-author of several books and numerous papers in various journals. Stefan Voß serves on the editorial board of some journals including being Editor of Netnomics and Editor of Public Transport. He

is frequently organizing workshops and conferences. Furthermore, he is consulting with several companies.