Seminar Series

Using Historical Data to Inform Human Air Traffic Flow Management Decisions

Professor David LOVELL
University of Maryland

Date: 25 October 2019 (Friday)
Time: 10:30 am - 11:15 am
Venue: P7303, Yeung Kin Man Academic Building (YEUNG), City University of Hong Kong

Abstract
The NEXTOR aviation operations research group at the University of Maryland has a long history of helping the U.S. Federal Aviation Administration develop algorithms, optimization models, and analyses of traffic flow management initiatives, including Ground Delay Programs and Airspace Flow Programs. The purpose of these initiatives is to manage scheduled traffic into constrained resources such as en route sectors and terminal airspace in the event of demand/capacity imbalances, such as in the presence of adverse weather. As data resources continue to grow, this increases the scope and sophistication that can be applied to these initiatives. In this presentation, Dr. Lovell will talk about some recent projects aimed at extracting information from large historical data sets to aid in the human decision-making process surrounding the design and implementation of these traffic management programs. Some technical details on the machine learning and data science techniques will be included, which reflect both the history of these projects but also some anticipated future research.

About the Speaker
Dr. David Lovell is a Professor in the Department of Civil and Environmental Engineering, and he holds a joint appointment with the Institute for Systems Research. He has a courtesy appointment in the Applied Mathematics & Statistics, and Scientific Computation Program. Dr. Lovell was faculty advisor for the Engineers Without Borders – UMCP and Maryland Sustainability Engineers student chapters for 8 years. He has led numerous educational and engineering trips with students to countries in Asia, South America, and Africa. He was awarded the 2012 EWB-USA Peter J. Bosscher Faculty Adviser Award and the 2014 Poole & Kent Senior Faculty Teaching Award, and in 2015 was inducted into the ODK Leadership Fraternity.

Dr. Lovell has been with the University of Maryland, College Park, since 1997. He has also held visiting faculty appointments at the Massachusetts Institute of Technology and the University of Hawai‘i, Manoa. He is currently Associate Editor of Transportation Research Part C: Emerging Technologies, and U.S. Program Chair of the International Conference on Research in Air Transportation. His research interests are in surface and air transportation, focusing on problems of facility design, resource allocation, data analytics, and operations research. He earned his B.A. in Mathematics from Portland State University, and his M.S. and Ph.D. degrees in Civil Engineering from the University of California, Berkeley.

All are Welcome!