The Department of Civil and Environmental Engineering at the University of Houston presents...

The CIVE 6111 Graduate Seminar Series

Drone-aided Healthcare Delivery for Patients with Chronic Diseases in Rural Areas and Uncertain Battery Duration

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Classroom Business Building (CBB) Room 108

Abstract

An Unmanned Aerial Vehicle (UAV) or a drone is an aircraft without a pilot that usually flies over preprogrammed way-points or controlled by a ground control unit. Recently, the use of drones has been actively studied in civilian fields, as opposed to the military use, such as monitoring oil/gas pipelines, assessing damaged power lines, delivering commercial items, collecting aerial shots, and aiding healthcare. This talk will focus on new findings in the use of drones and how the OR techniques/methods are used to optimize drone operations. The first problem I will talk about is a routine drug delivery problem using drones for patients with chronic diseases, who are required to visit clinics for routine health examinations in rural areas. The second problem is about extending drone flight durations for a routine surveillance mission such as border patrol.

Bio

Gino Lim is Professor and Chairman, and Hari and Anjali faculty fellow, in the Department of Industrial Engineering at the University of Houston (UH). He is a fellow of Institute of Industrial and Systems Engineer (IISE). His research interests are in robust optimization, large-scale optimization models and computational algorithms, Operations Research applications in healthcare, homeland security, transportation, and network resiliency. He has published over 100 articles in his field. He is the recipient of INFORMS awards including the Pierskalla Best Paper Award, Moving Spirit Award, and Volunteer Service Award. He has also received the Best Paper Award in the IISE energy systems division. His excellence in teaching has been well recognized by receiving multiple teaching awards at UH. He is a member of board of directors of INFORMS conference and the VP for Chapters/Fora of INFORMS. Previously, he was the program chair of 2017 INFORMS annual conference (Houston, TX), the chair of Bonder Scholarship committee for healthcare society of INFORMS, a past program chair for 2012 ISERC conference (FL), and a program Co-Chair of 2013 ISERC doctoral colloquium. He received both his M.S. and Ph.D. degrees in industrial engineering from University of Wisconsin – Madison.