OPTiMA

ARC TRAINING CENTRE IN
OPTIMISATION TECHNOLOGIES
INTEGRATED METHODOLOGIES
AND APPLICATIONS

OPTIMA SEMINAR SERIES

OPTIMISING INFECTIOUS DISEASE INTERVENTION WITH NONLINEAR COSTS

There are typically multiple possible intervention combinations that can be applied to control infectious disease outbreaks. We simulate the spatiotemporal disease transmission dynamics and subsequent impacts of intervention applications. We identify the optimisation framework to optimally allocate resources given the budgetary constraints which we demonstrate with a case study of dengue fever. The key challenge in this work is the nonlinear dynamics, combined with budget allocations between spatial regions.

Hamideh is a senior applied research scientist and technical leader with more than ten years of experience. Currently, she holds a position as an Enterprise Research Fellow at the School of Mathematics and Statistics at the University of Melbourne and Chief Investigator of the new Industrial Training and Transformation Centre, called OPTIMA. She was also the Science and Technical Leader of several industrial research projects in IBM Research Australia for more than nine years and has experience in the design and implementation of large-scale optimisation and data science solutions across different industries including, mining and healthcare.

She completed her Bachelor, Master and PhD in Mathematics. Her research interests broadly concern mathematical modelling, mixed integer programming, operation research, business analytics and optimisation, data analytics, machine learning, artificial intelligence, health analytics and resource allocation/scheduling. She has received several corporate awards and has also published several papers and patents.

WED 17 NOV 4PM - 5PM AEST

ZOOM MEETING ID: 873 1557 5255; PASSWORD: 778635

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