

The year 2020 was eventful and difficult due to the emergence of the Covid-19 virus. Attempts to understand, anticipate and mitigate the pandemic brought mathematical modelling into the public eye as never before. Supply chains were an early focus, highlighted by shortages of personal protective equipment and concerns about food security. As we enter 2021, attention is moving distributing vaccines efficiently and fairly. Operations Research, a discipline forged in wartime logistics, is at the heart of these efforts.

Simon Fraser University trains Operations Research students to have both a deep grounding in theory and exposure to realistic data. The latter is done through projects in our *Introduction to Operations Research* (Math 208W) and *Operations Research Clinic* (Math 402W) courses. Selected projects from these two courses form the 2019-20 edition of *Analytics Now*, a publication of Simon Fraser University's Operations Research Student Union (ORSU).

The pandemic had a direct impact on the 2020 Operations Research project courses: classes moved on-line in the middle of term, access to data was cut off, and the post-course follow-up has been difficult. A preliminary version of one of these projects, by Gabbassov and Morse on *Bus Stop Consolidation: a GIS Optimization Approach*, was entered in the 2020 Canadian Operational Research Society (CORS) and selected as finalist. The students are continuing to work on this project, which is not available at press time. The second project on *Optimizing the Staff Mix of a Community Health Centre* had to be halted due to its loss of access to confidential data due to Covid-19, and was not available for the CORS competition.

In 2019, there was a single Operations Research Clinic project, on *Coordinating Primary Care Operating Hours to Reduce Acute Care Visits* by Erdos, Gregson, Jace and Zhu. This was selected as finalist in the 2019 Canadian Operational Research Society (CORS) Undergraduate Student Paper Competition. It is a collaboration with Vancouver Coastal Health (VCH).

Impressively, several of the 2020 Introduction to Operations Research students persevered through the pandemic and produced worthwhile projects. Included in this volume are a *Burnaby Mountain Gondola Study* by Andrews, Hazar, Lohana and Oloyede; *Finding Coronavirus-resistant Stock Portfolios* by Bedi, Bugal and Chen; *Optimizing Course Scheduling for the Operations Research Undergraduate Program at Simon Fraser University* by He, Islam and Saha; and *Vancouver School Optimization* by Kuharchuk, Tsia and Zhu.

Additionally, two projects from 2019 are included, *Optimization Model for Network Coverage of SFU Bennett Library* by Alemi, Christo, Hon and Ling; and *A model for supply allocation in the city of Vancouver to prepare for a natural disaster* by Anonby, Dubal, Li and McGowan.

I thank the members of Simon Fraser University's Operations Research Student Union (ORSU), including Ashutosh Dubal, Jason Gill, Kevin He, Maya Ramadhina and Samantha Zimmerman for their work in assembling this volume. And I particularly thank the authors for their hard work and continued enthusiasm in submitting their projects to *Analytics Now*. We look forward to many more successful projects in 2021 and 2022!

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