

# Hong Kong - Singapore joint Seminar Series in Financial Mathematics/Engineering

## High-dimensional open markets in stochastic portfolio theory

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### Abstract

Stochastic portfolio theory studies investments in large equity markets. Such investments are frequently confined to an “open market”: a high capitalization investment-grade subset of a much broader equity universe. We develop models for open markets which (i) are consistent with a given invariant distribution of relative market capitalizations, (ii) lead to explicit growth-optimal portfolios, (iii) are robust to the dimensionality and specific characteristics of lower-capitalization stocks outside the investment-grade subset, and (iv) serve as a worst-case model for a robust asymptotic growth maximization problem that incorporates model ambiguity. (Joint work with David Itkin)

### About the speaker

Prof. Martin Larsson is an Associate Professor in Department of Mathematical Sciences at Carnegie Mellon University working in mathematical finance, probability theory and stochastic analysis. Before joining CMU, he was an Assistant Professor in Department of Mathematics at ETH Zurich. He holds a PhD in ORIE from Cornell University, and was a postdoctoral fellow at the Swiss Finance Institute at EPFL in Lausanne.

### Date

June 09, 2022 (Thursday)  
(HK Time)

### Time

8:30pm – 9:30pm (HK  
Time)

### Zoom

<https://polyu.zoom.us/j/97910324662?pwd=dTI4UIR1cTMjYXVyeXlFY1hqYFVWQT09>

Meeting ID:  
979 1032 4662

Passcode:  
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