

The Working Group on Risk - CREAR, with the support of the IDS dpt, Institut des Actuaire, LabEx MME-DII and the group BFA (SFdS), has the pleasure to invite you to the Seminar by:

Prof. Justin DAUWELS

Nanyang Technological Univ. (NTU), Singapore

Thursday, January 17, 2019, 12:30pm – 1:30pm (CET)

**at ESSEC La Défense (CNIT) – Amphi 202
and ESSEC Asia Pacific – Level 3, classroom 7**

“Graphical Models for Extreme Events”

Assessing the risk of extreme events, such as hurricanes, floods, and droughts, presents unique significance in practice. Unfortunately, the existing extreme-value statistical models are typically not feasible for practical largescale problems. Graphical models, on the other hand, are capable of handling a sizable number of variables, but have yet to be explored in the realm of extreme-value analysis. To bridge the gap, we present how to utilize graphical models to analyze extreme events in this talk. Extreme events are often modeled in two stages: first the extreme-value marginal distributions are estimated (i.e., marginal analysis), and then the joint distribution of extreme values is constructed based on the marginals (i.e., joint analysis). We construct graphical models for both marginal and joint analysis problems, show theoretical properties, and further apply them to various real extreme-value data sets.

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Prof. Justin DAUWELS

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Dr. Justin Dauwels is Associate Professor of the School of Electrical and Electronic Engineering at the Nanyang Technological University (NTU) in Singapore. He also serves as Deputy Director of the ST Engineering – NTU corporate lab, which comprises 100+ PhD students, research staff and engineers, developing novel autonomous systems for airport operations and transportation.

His research interests are in data analytics with applications to intelligent transportation systems, autonomous systems, and analysis of human behavior and physiology. He obtained his PhD degree in electrical engineering at the Swiss Polytechnical Institute of Technology (ETH) in Zurich in December 2005. Moreover, he was a postdoctoral fellow at the RIKEN Brain Science Institute (2006-2007) and a research scientist at the Massachusetts Institute of Technology (MIT) (2008-2010). Besides his academic efforts, the team of Dr. Justin Dauwels also collaborates intensely with local start-ups, SMEs, and agencies, in addition to MNCs, in the field of data-driven transportation, logistics, and medical data analytics.



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