

SÉMINAIRE DE MATHÉMATIQUES ACTUARIELLES ET FINANCIÈRES

organisé par Quantact, le Laboratoire de mathématiques actuarielles et financières du CRM

Le premier séminaire aura lieu à l'Université de Montréal dans une salle inhabituelle : salle Z-240. La salle se trouve dans le pavillon Claire-McNicoll qui est en face du pavillon André-Aisenstadt.

The first seminar will take place at University of Montreal in an unusual room: room Z-240. The room is located in the Claire-McNicoll Pavilion opposite to the André-Aisenstadt Pavilion.

[Lien vers carte / Link to map](#)

Z-240

Pavillon Claire-McNicoll, Université de Montréal

Vendredi, 17 février 2017, 14:30-15:30

Friday, February 17, 2017, 14:30-15:30

Thorsten Moenig

Assistant Professor

Temple University in Philadelphia

Where Less Is More:

Reducing Variable Annuity Fees to Benefit Policyholder and Insurer

We propose and analyze a new fee structure for variable annuity (VA) policies, whereby the VA base fee is reduced after a certain number of policy years in order to discourage policy lapses. We show that—when taking into account financially optimal lapse decisions—this time-dependent fee structure increases the policy value for both the policyholder and the VA provider. We determine the optimal timing and rate of the fee reduction for a competitive as well as for an innovative VA provider. An important characteristic of this new feature is that it can be implemented easily and effectively to both new and existing VA policies.

This talk is based on joint work with Carole Bernard.

Site web / website: <http://quantact.uqam.ca/index.html>

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Le deuxième séminaire aura lieu dans la salle habituelle. Il sera précédé d'une pause café.

The second seminar will take place in the usual room. Coffee will be served beforehand.

AA-5340
2920, Chemin de la tour
Pavillon André-Aisenstadt, Université de Montréal
Vendredi, 17 février 2017, 16:00-17:00
Friday, February 17, 2017, 16:00-17:00

Klaus Herrmann

Postdoctoral Fellow
Concordia University

Geometric Approximations to Integration Domains and Numerical Algorithms for Distribution Functions

In this talk we discuss the numerical computation of the distribution function of a random variable that is formed by applying a suitable function g to a random vector $X = (X_1, \dots, X_d)$. A standard example in financial mathematics and actuarial science is the (weighted) sum of the components of X . The recent literature has seen a new way to tackle these kind of problems by focusing on the decomposition of the associated integration set. These approaches generally make use of the fact that (hyper-) rectangles can easily be evaluated via the joint distribution function of X and thus aim to find a suitable decomposition of the integration set in terms of (hyper-) rectangles. A closely related approach can be used to compute the joint distribution function of a multivariate normal distribution. Finally we give examples related to Expected-Shortfall optimal portfolio selection.

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