

# CoE-MaSS weekly seminar series

THE DST-NRF CENTRE OF EXCELLENCE IN MATHEMATICAL AND  
STATISTICAL SCIENCES (CoE-MaSS) WOULD LIKE TO PRESENT  
A SEMINAR BY

## Mr Gerrit Grobler

*(School of Computer, Statistical and Mathematical Sciences, North  
West University, South Africa)*

“Stochastic calculus for pure jump  
processes: Girsanov's theorem.”

Friday, 23 June 2017  
10h30-11h30



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**Broadcast live from:**  
Videoconferencing Facility, 1st Floor  
Mathematical Sciences Building, Wits West Campus

**How to connect to this seminar remotely:**

You can connect remotely via Vidyo to this research seminar by clicking on this link:  
<http://wits-vc.tenet.ac.za/flex.html?roomdirect.html&key=y0SSOwFsvsidbzig4qFdWXvvQtyl>  
and downloading the Vidyo software before the seminar.

You must please join in the virtual venue (called “*CoE Seminar Room (Wits)*” on Vidyo)  
strictly between **10h00-10h15**. No latecomers will be added.

**Important videoconferencing netiquette:**

Once the seminar commences, please mute your own microphone so that there is no feedback from your side into the virtual room. During the Q&A slot you can then unmute your microphone if you have a question to ask the speaker.

**Title:**

Stochastic calculus for pure jump processes: Girsanov's theorem

**Presenter:**

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**Abstract:**

Short rate models are defined under a risk -neutral probability measure  $\mathbb{P}$ . However, the parameters in these models cannot be estimated under  $\mathbb{P}$ , but must be estimated under a market measure  $\mathbb{P}$ .

Girsanov's theorem can be applied to describe how model parameters change with a change of measure.

As a consequence Girsanov's theorem is an important theorem from the field of stochastic processes directly applied to interest rate derivative pricing.

In many cases an advanced background in pure Mathematics is needed to read the existing literature on jump processes. The results are presented in a more approachable way, such that an audience member with a background in elementary probability theory or actuarial science can use the results to apply in their field of research.