

CoE-MaSS weekly seminar series

THE DST-NRF CENTRE OF EXCELLENCE IN
MATHEMATICAL AND STATISTICAL SCIENCES (CoE-MaSS)
PRESENTS A SEMINAR BY

Prof Hugo Touchette
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*“Large deviation theory: From physics to
mathematics and back”*

Friday, 28 September 2018
10h30-11h30

CoE-MaSS Seminar Room, 1st floor,
Math Sci Bldg, West Campus, Wits University.



I will give a basic overview of the theory of large deviations, developed by Varadhan (Abel Prize 2007) in the 1970s, and of its applications in physics. In the first part of the talk, I will discuss the basics of this theory and its historical sources, which can be traced back in mathematics to Cramer (1938) and Sanov (1960) and, on the physics side, to Einstein (1910) and Boltzmann (1877). In the second part, I will show how the theory is applied in statistical physics to study equilibrium and nonequilibrium systems.

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