



2016

LECTURES & SEMINARS

06

APR. 2016
Wednesday

SEMINAR

CHL – Amphithéâtre

5.00 - 7.00 pm



SPEAKER

Prof Peter McCullagh

Professor, Department of Statistics,
University of Chicago, U.S.

HOST:

Luxembourg Statistical Society
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EMPIRICAL PHENOMENA AND UNIVERSAL LAWS

ABSTRACT

In 1943 Fisher, together with Corbet and Williams, published a study on the relation between the number of species and the number of specimens in random samples. This very short paper has since been recognized as one of the most influential papers on species diversity in 20th century ecology. It was a combination of empirical work backed up by a simple theoretical argument pointing to the log-series distribution for species diversity in random samples. Fisher's work is closely related to more recent mathematical developments on random partitions, such as the Ewens partition and the chinese restaurant process. In this talk, I will explain how Fisher's log-series distribution is a consequence of three mathematical axioms: exchangeability, consistency and self-similarity.

If time permits, I will discuss the implications for empirical studies of a similar sort, including Fairfield-Smith's work on the variance of spatial averages.