

M. J. Lopez-Herrero

SCHOOL OF STATISTICS, COMPLUTENSE UNIVERSITY OF MADRID, 28040 MADRID,
SPAIN

e-mail: lherrero@estad.ucm.es

**The SIS and SIR stochastic epidemic models Length of an
outbreak and time to infection**

We deal with the SIS and SIR stochastic epidemic models. The aim of this talk is to present the study of some continuous characteristics of an epidemic. In this sense, we first extend the classical study of the length of an outbreak by investigating the whole probability distribution of the extinction time via Laplace transforms. Moreover, we also study the time until a non-infected individual becomes infected. The obtained results are illustrated by numerical examples including an application to head lice infections.