**Appendix S1 Stationary and non-stationary Poisson processes**

With a Poisson process one may describe the occurrence in time of stochastic events having a given mean frequency of λ events per unit of time. Within a time interval (*t*, *t* + Δ*t*) an event takes place with a probability that is approximated by λ Δ*t* for Δ*t* sufficiently small. Events up to time *t* do not play any role. Let from some given time *t*0 we consider the time interval that ends with the first time *t*1 that an event takes place. The Poisson process has the property that the length of that time interval has an exponential distribution with the same parameter λ. The probability that the length of the interval is between *L* and *L* + d*L* satisfies λexp(-λ*L*)d*L*. Allowing that the interval at time *t*0 starts with an event we conclude that the time between two subsequent events is also exponentially distributed having an expected value 1/λ:

 . (A1)

For a non-stationary Poisson process with

 

we obtain for the expected value of the length of the interval between two events

 . (A2)