On superposition of independent point processes

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 In this talk, we'll investigate various approximations to the superposition of independent point processes. When the point processes are sparse, the Poisson law of small numbers guarantees that a (compound) Poisson point process provides a good approximation. However, the quality of approximation does not improve when the number of point processes increases. On the other hand, there seems to be little study on the case when the point processes are not sparse. To tackle these problems, we offer an alternative approximation and provide a Berry-Esseen type theorem for the superposition of independent and identically distributed point processes.