

# CONTINUOUS STATE BRANCHING PROCESSES WITH IMMIGRATION IN RANDOM ENVIRONMENT

**Sandra PALAU** *University of Bath, England*, E-mail: sp2236@bath.ac.uk

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**Abstract:** In this talk we will discuss the construction of a continuous state branching process with immigration in a Lévy random environment and how could we extend this model to more general environments. In the case of stable CB-process, we are going to analyse the process conditioned to extinction and the process conditioned to never been absorb. Finally, when immigration is present, we will see how the environment affects the zero set and the polarity of zero.