TITLE: Avalanching and correlations in Self-Organised Criticality

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ABSTRACT:
Since its conception, self-organised criticality (SOC) has been concerned with large dissipative events in systems that appear to display spontaneously the behaviour normally found at non-trivial critical points. Such events are usually referred to as avalanches, whose spatio-temporal structure is normally characterised by observables such as their size, area and duration. The scaling observed for the statistics of avalanches can be related to that of spatio-temporal correlation functions, which are not often studied in their own right. I will discuss some of the features of correlation functions in SOC, how they relate to theory and "integrated" observables such as avalanches, as well as a recent finding of hyperuniformity in SOC. These results are joint work with Gary Willis and Rosalba Garcia-Millan.