

Bursty activity in coupled networks

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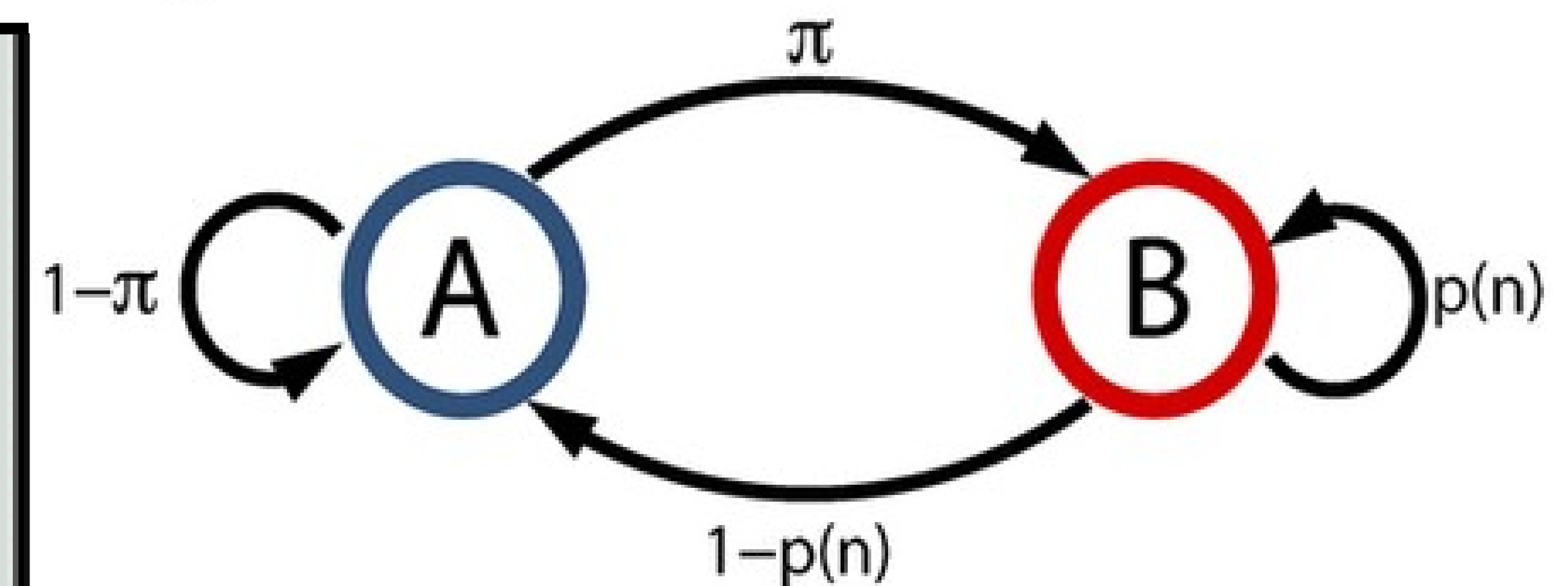


How do bursts of activity correlate between the different networks a person is participating in and how does it affect dynamics in the networks?



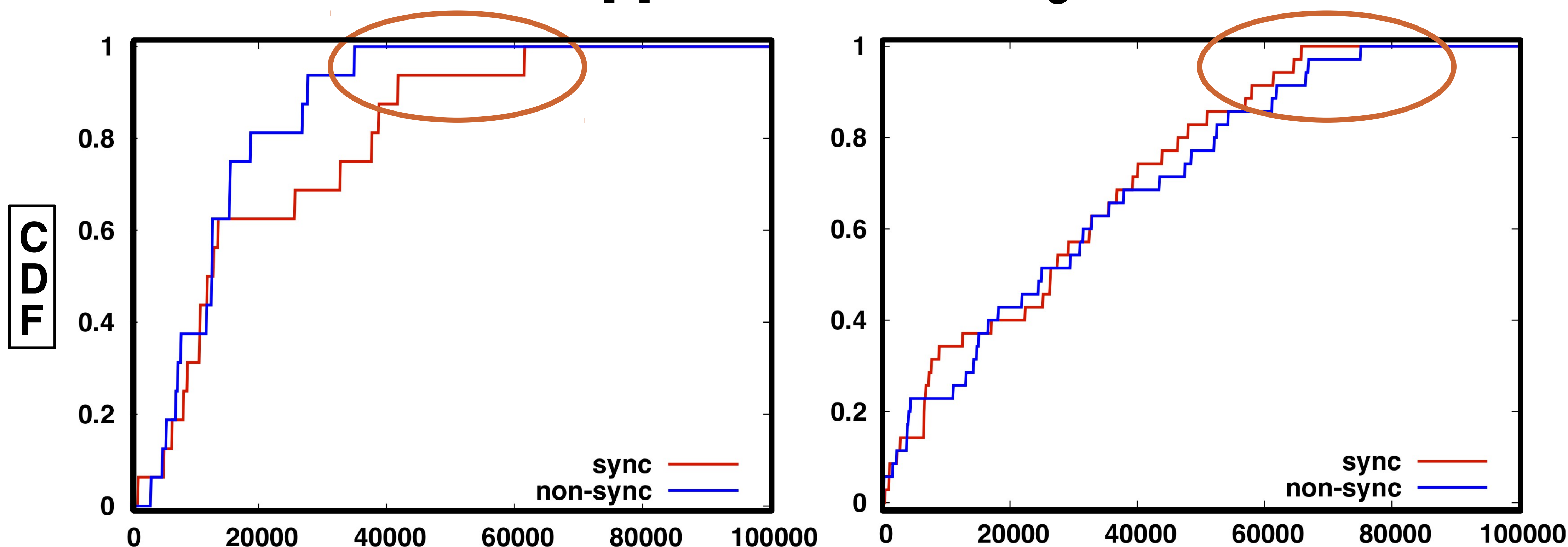
I will use the two-state model of Karsai *et al.* [1] to generate bursts.

Excellent question!
I tend to write bursts of
nasty emails and tweets
at the same time.

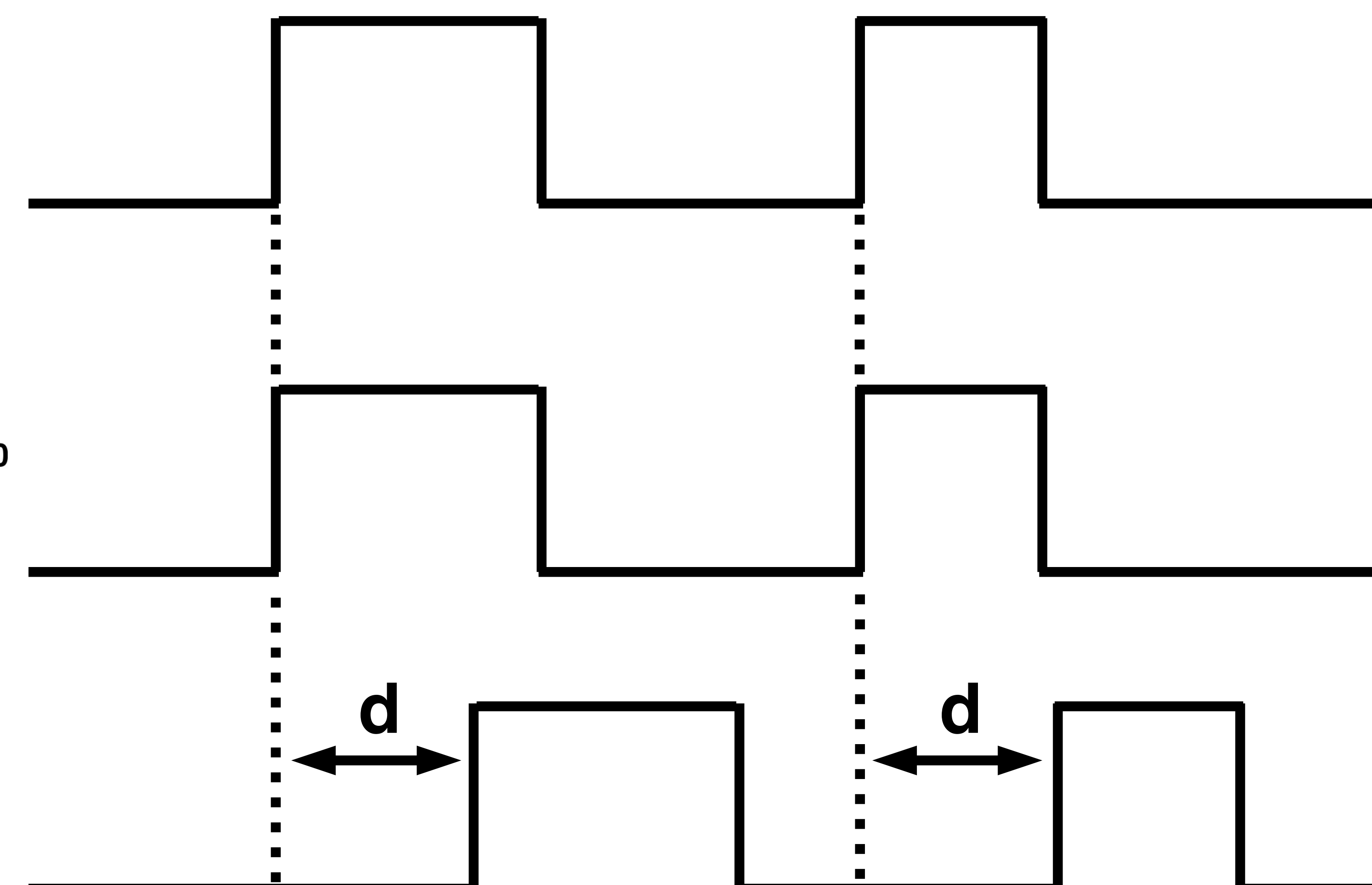


SI threshold model [2]

Regular SI model



Number of infected nodes after all nodes executed 100 events



Bursty activity
in layer 1

Synchronized
bursty activity
in layer 2

Non
synchronized
bursty activity
in layer 2

[1] Karsai M, Kaski K, Barabási A-L, Kertész J. (2012) Universal features of correlated bursty behavior. *Sci. Rep.* 2, 397. (doi:10.1038/srep00397).

[2] Takaguchi T, Masuda N, Holme P. (2013) Bursty communication patterns facilitate spreading in a threshold-based epidemic dynamics. arXiv:1206.2097

All drawings are taken from "Piled Higher and Deeper" by Jorge Cham
www.phdcomics.com

