

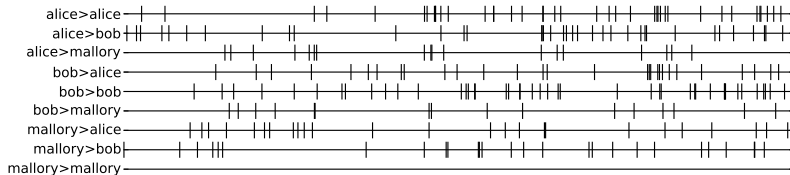
Modelling Reciprocating Relationships
with Hawkes Processes
Poster W40

Charles Blundell, Katherine Heller, Jeff Beck

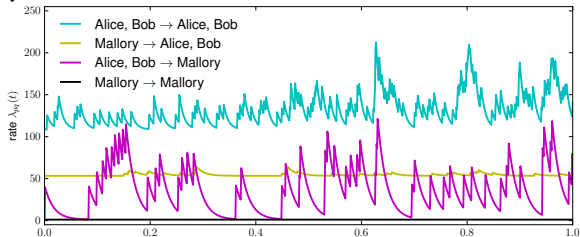
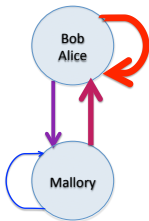
respectively:

Gatsby Unit, UCL;
Statistical Science, Duke;
Brain and Cognitive Science, Rochester

W40: Implicit Social Graphs

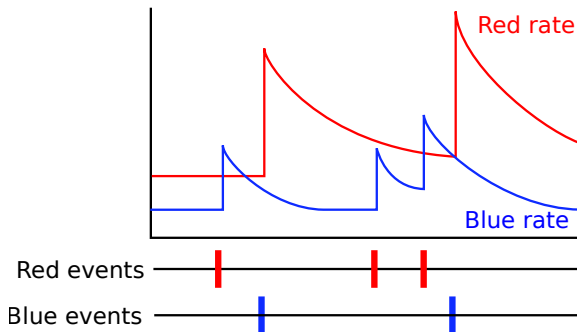


Reciprocity



W40: Mutually-Exciting Hawkes Processes

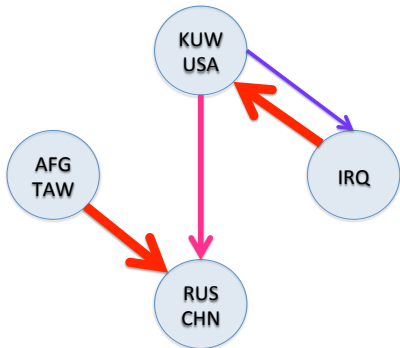
A model of reciprocity



$$\lambda_{\text{red}}(t) = \gamma_{\text{red}} + \int_0^t k_{\text{red}}(t, s) N_{\text{blue}}(ds)$$
$$\lambda_{\text{blue}}(t) = \gamma_{\text{blue}} + \int_0^t k_{\text{blue}}(t, s) N_{\text{red}}(ds)$$

W40: Reciprocating Relationships: Examples

Interstate disputes: 1993–2001.



City hall meeting.

