Collective learning and its dangers: towards a logical approach to social information flow

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What is the “logic” governing the dynamics of social knowledge? As a first step towards investigating this question in more generality, I look at some examples of both successful collective learning (the wisdom of the crowds) and its distortions (informational cascades, a.k.a. the madness of the crowds). I argue that the standard Bayesian analysis, though useful, is insufficient for a full understanding of these phenomena. I use ideas from (Dynamic) Epistemic Logic, Belief Revision Theory and Formal Learning Theory to analyze these examples.

This talk is based on on-going joint work with Sonja Smets, Jens Hansen and Zoé Christoff.