**Determining information flow in networks containing one hundred neocortical neurons** AONAN TANG, JON HOBBS, Indiana University, WLADEK DABROWSKI, PAWEL HOTTOWY, ALEXANDER SHER, ALAN LITKE, JOHN BEGGS, Indiana University — How does information flow through networks of neurons? The type of network topology revealed could have important consequences for network efficiency and robustness to damage. Several tools, including transfer entropy, Granger causality, and directed information can be applied to this question. Yet indirect connections, connections with various delays, and feedback loops can complicate the task of uncovering the information flow structure. We have applied the above methods in simple validation studies, demonstrating that many of these issues can in principle be overcome. We will present preliminary results from neocortical networks of neurons recorded with a 512 electrode array.

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