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Linyuan Lu (lu@math.sc.edu), **Austin Mohr*** (mohrat@email.sc.edu) and **László Székely** (szekely@math.sc.edu). *Quest for Negative Dependency Graphs.*

The Lovász Local Lemma is a well-known probabilistic technique commonly used to prove the existence of rare combinatorial objects. Its great success led to the development of the lopsided (or negative dependency graph) version of the lemma by Erdős and Spencer. In order to apply the lopsided lemma, the events of interest must satisfy a certain type of negative correlation that is easier to satisfy but harder to identify than the independence required by the original version. After familiarizing ourselves with the lopsided lemma, we will explore several settings involving disparate combinatorial objects in which proper negative dependency graphs have been discovered. (Received June 27, 2012)