

# MARKETING COLLOQUIA

FALL 2017

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**Date: Thursday, 10/02/2017**

**Where:** 741 JMHH

**When:** 12:00 PM to 1:20 PM

## **EXTRACTING WISDOM FROM CROWDS**

**ABSTRACT:** Crowd wisdom problems are pervasive in marketing, including internal firm forecasting and aggregating consumer opinions. We consider the wisdom-of-the-crowd problem of aggregating the judgments of multiple individuals on a single question, when no outside information about their competence is available. Many standard methods select the most popular answer, after correcting for variations in confidence. Using a formal model, we prove that any such method can fail even if based on perfect Bayesian estimates of individual confidence, or more generally, on Bayesian posterior probabilities. Our model suggests an alternative method: select the answer that is more popular than people predict. We derive theoretical conditions under which this new method is guaranteed to work, and generalize it to questions with more than two possible answers. We conduct empirical tests in which our new method outperforms majority and confidence-weighted voting in a range of domains including geography and trivia questions, laypeople and professionals judging the price of art, and dermatologists evaluating skin lesions. We develop a probabilistic generative model for crowd wisdom and evaluate it on the same domains, including applying it across questions to determine individual expertise