

COST Action IC1205 Computational Social Choice: STSM Report

Applicant	Omer Lev
Home institution	Hebrew University of Jerusalem
Home country	Israel
Host	Toby Walsh
Host institution	NICTA
Host country	Australia
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I was hosted for two weeks by Prof. Toby Walsh at NICTA, Sydney. During this period I worked with the team of researchers there, including Dr. Haris Aziz, Dr. Serge Gaspers, and Dr. Nick Mattei.

We worked mainly on a basic crowdsourcing problem: In a field with many participants, each submitting a proposal, task, or work they wish to be selected, we want to select the top k proposals. However, we wish to crowdsource the selection process, and therefore our graders, or reviewers, are the participants themselves. The problem here is to find a good method – one which selects high quality work – which is strategyproof, i.e., no participant can influence their own chance of being selected by changing their grades of others.

Our approach was to combine a partition based mechanism, in which proposals are divided into groups which do not grade each other, alongside a share mechanism to allocate how many proposals will be chosen from each partition. In this manner, we were able to address the case where some random selection of agents puts a multitude of high-quality ones in the same partition, which in other mechanisms would force us to select fewer of them than we would have liked. Our method raised some thorny allocation issues, which we have worked on as well.