COST Action IC1205 on Computational Social Choice: STSM Report

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Host	Edith Hemaspaandra
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Host country	USA
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I visited the Rochester Institute of Technology and worked with my host Edith Hemaspaandra and Lane Hemaspaandra (from the University of Rochester) on computational social choice. Since the discussions leading to my visit, our research plan shifted from the specific complexity study of Copeland manipulation to a broader investigation of a broader class of election systems.

Specifically, we studied the computational complexity of the control problem by adding voters for a wide range of election systems. This is the following problem: Given an election (i.e., set of candidates and votes cast so far) plus alist of "possible" voters and their preferences, a natural number k and a favorite candidate p, is it possible to find a set of at most k of the "possible" voters whose addition to the current election makes p a winner? We could show that, for a wide range of election systems, the problem is either solvable in polynomial time or NP-complete, and obtained a precise classification of both cases. The results of this research will be submitted to AAAI 2014.

In addition to these results, I also had interesting discussions with Jörg Rothe from Düsseldorf, who visited Rochester for a few days, and Stanislaw Radziszowski, who is a faculty member at RIT. I also discussed relational modeling of elections as well as various questions of computational social choice with Zack Fitzsimmons.

I also gave a talk at the department of computer science at the University of Rochester, titled "Deciding Epistemic and Strategic Properties of Cryptographic Protocols" (I was specifically asked to talk about a non-computational social choice topic).

My visit was a fantastic opportunity, I am very grateful for the support.