COST Action IC1205 on Computational Social Choice: STSM Report

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I was hosted for two weeks at the Rochester Institute of Technology (RIT). In the open and welcoming atmosphere of RIT, I had the opportunity to meet and talk to several researchers. In particular I have worked with my host, Prof. Edith Hemaspaandra, and Zack Fitzsimmons, a PhD student of hers.

I gave a presentation at Theory Canal Talks, a joint theory seminar by RIT and the University of Rochester (`http://www.cs.rit.edu/node/822`). My talk was titled "Recognizing Incomplete Single-Peaked and Single-Crossing Preferences".

Our main research topic during this two weeks was the applicability of the existentially single-peaked restriction (Martin Lackner, Incomplete Preferences in Single-Peaked Electorates, AAAI 2014). We studied computationally hard winner determination problems under this restriction. Our first results look promising; the existentially single-peaked restriction seems to be algorithmically exploitable. We are going to continue this line of research and hope to submit a publication this year.

In addition, we have started to look at manipulation problems for hard winner problems, such as the Kemeny, Young or Dodgson rule and social choice theoretic properties of these voting systems.

I am very thankful to the COST Action IC1205 and its committee for allowing me to establish this valuable research collaboration with the RIT.