COST Action IC1205 on Computational Social Choice: STSM Report
Applicant: Ali Ihsan Ozkes
Home institution: Ecole Polytechnique
Home country: France
Host: Burak Can
Host institution: Maastricht University
Host country: Netherlands
Dates: 01/05/2014 - 16/05/2014

I was hosted by Dr. Burak Can at Maastricht University where I was allowed to benefit from facilities as well, because the School (of Business and Economics) recognized the visit. During the visit, I worked, closely and on a regular basis, with Dr. Can and Dr. Ton Storcken.

With the aforementioned researchers, whose previous research is a best match for the question of the project and with whom we already worked on the topic before, we made significant progress on the analysis of measuring polarization of preferences that are represented as orders.

Previously, we have characterized a measure of polarization with four plausible axioms in Can B., Ozkes A. I. & Storcken T., 2014. "*Measuring Polarization of Preferences,*" Research Memorandum 018, Maastricht University, Graduate School of Business and Economics (GSBE).

During this visit, we characterized a class of measures that include the above measure as well with two axioms. This class is allowing weighting different pairs differently. We furthermore showed that this characterization survives if we extend the domain of preferences to weak orders, or restrict to the politically more relevant subdomain of single-peaked preferences. These new results show that a simple additivity requirement, which in fact imposes equaling with the weighted summation of polarization values if two conflict-free profiles join, restricts substantially the class of regular measures.

We furthermore discussed and planned the possible directions of future research. The result on single-peakedness leads to an obvious curiosity regarding the relation between the level of polarization measured with the current class of functions and the social choice outcome if preferences in the society can be aligned on a one dimensional ideological space.

To conclude, this visit was very fruitful, providing the opportunity of continuing a collaboration that will eventually produce important contributions to social choice theory.