

COST Action IC1205 on Computational Social Choice: STSM Report**Applicant:** Anna Moskalenko**Home institution:** Universitat Rovira i Virgili**Home country:** Spain**Host:** Prof. Attila Tasnádi**Host institution:** Corvinus University of Budapest**Host country:** Hungary**Dates:** 02/05/2016 to 31/05/2016

The purpose of the research visit was to continue collaboration on our joint paper with Prof. Attila Tasnádi and his colleague Dezsó Bednár, entitled "Searching for the "least" and "most" dictatorial voting rules". In this work we present a new concept related to distance rationalizability of voting rules. While distance rationalization of voting rules is based on the minimization of the distance to some plausible criterion, such as the unanimity or Condorcet criterion, in our work we propose a new alternative: the maximization of the distance to an undesirable voting rule, namely, the dictatorial voting rule. We call the rule that is farthest away from the dictatorial rule as the least-dictatorial rule and define it by a plausible metric (distance function): the number of preference profiles for which two social choice functions choose different alternatives. The least-dictatorial voting rule is the rule for which this distance function is the greatest for the closest dictatorial rule, therefore, this rule is the furthest away from the closest dictatorial rule. We obtained two results: (i) the defined least-dictatorial voting rule, which is in fact the anti-plurality rule, is the furthest away from the dictatorial rule; (ii) taking the opposite approach, we found that the plurality rule is the closest to the dictatorial rule, which we call the most-dictatorial voting rule. The first result implies that being away from a "bad" voting rule is not necessarily a sensible property, because we end up with a very undesirable rule. The second result implies that the common plurality rule has a questionable property, which we are going to investigate further, together with the other open questions left (e.g., consider the social welfare functions instead of social choice functions), in order to prepare a common publication.

Overall during my stay, we have made a good progress in the development of our paper and I am very grateful to COST Action IC1205 for supporting my research visit, and also to my host, Prof. Attila Tasnádi, for the hospitality.