

Applicant: Jan Christoph Schlegel  
Home Institution: University of Lausanne  
Home Country: Switzerland  
Host: William Thomson  
Host Institution: University of Rochester  
Host Country: USA  
Dates: 22/09/2014 to 12/10/2014

## Report

During my stay at the Economics Department of the University of Rochester I worked on theoretical aspects of the matching with contracts model of Hatfield and Milgrom (2005). The model plays an important role in many recent market design applications. (Sönmez and Switzer, 2013; Sönmez, 2013; Kominers and Sönmez, 2013) In my project, I wanted to better understand the theoretical connection to other matching models. Under the assumption of substitutability of contracts, it can be shown (Echenique, 2012) that the matching with contracts is essentially equivalent to the earlier job matching model of Kelso and Crawford (1982). I was able to show that the equivalence holds under weaker conditions on preferences than the substitutes condition. In particular, the equivalence holds under the “unilateral substitutes condition” introduced by Hatfield and Kojima (2010). This condition is important in many market design applications. Moreover, my result allows to define a new class of firm-proposing mechanisms in the model with contracts where the unilateral substitutes condition is satisfied.

When I arrived at Rochester, I had a very preliminary draft of the results. During the three weeks in Rochester, my host William Thomson gave me detailed comments on my draft. Despite his various other commitments, William Thomson met with me several times per week, gave me new comments on the draft and discussed each of them with me until I was convinced that the paper should be modified as suggested by him. Afterwards he asked me to revise the paper accordingly. After the revision, I received new comments on the revised version. The procedure of constantly discussing and revising my paper proved to be highly successful. Comparing the previous version to the current version of the paper, it is amazing how much the paper gained in clarity and how much the exposition of the results improved. After my stay, I continued to work on the paper and to constantly improve it. Once this process will be finished, the paper will be submitted to a economic theory journal.

Besides the concrete project that I was working on, my stay in Rochester was a great overall learning experience. The department provided a very hospitable environment. I enjoyed the weekly microeconomic theory seminars as well as the student seminar where students presented current research papers. Moreover I participated in William Thomson’s weekly student seminar and I followed his lecture on fair allocation problems. I am very grateful that the COST action supported my stay in Rochester and enabled this unique learning experience.