

# NETWORK METHODS TO DETECT CARTELS IN PUBLIC AUCTION MARKETS



**A TALK BY**

**JOHANNES WACHS**

*PhD Student, Center for Network Science, CEU*

**MONDAY, OCT 16, 1:30 P.M. | NÁDOR U. 11., ROOM 616**

**ABSTRACT** | Public auction markets are vulnerable to cartel behavior, yet detecting cartels is very difficult. We represent such markets as competition networks: two firms are connected if they compete. We use the network to detect cohesive groups of competing firms and to generate features of the groups which may indicate cartel-behavior. We test this method on 10 years of data from a market for school milk containing a convicted cartel group and find that the network effectively highlights the convicted group. We then apply the method to a dataset from the Republic of Georgia, containing all public contracts awarded over five years worth over four billion US dollars. Groups with suspicious network features win contracts that cost the state significantly more, they are significantly less likely to pass commonly-used cartel-screening tests used by competition authorities, and are significantly less likely to sue each other in court. We conclude that network representations of competitive markets can effectively highlight groups of firms engaging in suspicious behavior.

**BIO** | Johannes studies public contracting markets using network methods. He is interested in patterns that emerge when actors are corrupt. He is also affiliated with the Government Transparency Institute and teaches data mining at the Aquincum Institute of Technology. He was born in Germany, grew up in the US, and has been living in Hungary since 2009.