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## **EPNet: Production and Distribution of Food during the Roman Empire: Economics and Political Dynamics**

## **Description**

The project intends to set up an innovative framework to investigate the political and economical mechanisms that characterised the dynamics of the commercial trade system during the Roman Empire. This system is one of the first recognized networks of interaction and interdependence in the current European territory and it is generally considered to be the first complex European trade network. Many theories and hypothesis about the organization of the Roman trade system have been proposed but, due to the lack of formal models, these theories remain purely speculative.

We propose to study this system using formal modelling and computer simulation calibrated and validated with empirical data. We will mainly focus on two specific products, oil and wine (but other more secondary products will be also considered) and two different aspects and scales: a) expansion from a single production area b) expansion and interactions from different production areas.

The different existing research hypothesis will be modelled in a formal framework that will be used for running computer simulations and create possible scenarios of the development of the trade network. The archaeological and historical datasets will provide the means for verification and validation processes in order to verify the explanatory power of the different models. The project counts with one of the richest database for amphorae and epigraphy, one of the most precise archaeological and historical semantic markers available from the Roman Empire trading system. They provide information on geographical origin, the products that were transported and traded - ratification will be provided by archaeobotanical and chemical residue analyses from containers - the economic transactions, as well as on the social positions of and relationships between those involved in trade. Furthermore the possibility of dating them with great precision makes it possible to undertake fine-resolution studies of the dynamics of trading networks over time.

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