

# CABDyN / INET Oxford SEMINAR SERIES

## Oxford Martin School – Hilary 2015

For further information  
please contact the  
Cabdyn Administrator:

[info.cabdyn@sbs.ox.ac.uk](mailto:info.cabdyn@sbs.ox.ac.uk)

01865 288785

Seminar webpage:  
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asp](http://www.cabdyn.ox.ac.uk/complexity_seminars.asp)

**Please note:** although  
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### ‘Microdata, networks, and agent-based computing for unemployment policy’

**Eduardo López**

Senior Research Fellow, CABDyN Complexity Centre, Saïd Business School

**Omar Guerrero**

Research Fellow, INET Oxford, Saïd Business School,

**Tuesday 17<sup>th</sup> February, 12.30 -14.00**  
**Seminar Room 1, Oxford Martin School**

#### ABSTRACT:

Conventionally, unemployment has been studied as an aggregation of people who fail to find jobs due to the impossibility of reaching those firms that could hire them. Here we present an empirically motivated theory of unemployment that studies this labor dynamic at a highly disaggregated level by looking at each firm in the economy and how workers navigate through them during their careers. Our approach does not require arbitrary aggregations, so important information about firm heterogeneity is naturally preserved; it takes advantage of the rich structure of large-scale datasets by using employer-employee matched records; and it is easy to implement in a computational framework to study the effect of different types and sizes of economic shocks, in different parts of the economy. First we will introduce our formal framework and the main analytical results. Second, we will demonstrate the consistency of our findings by looking at highly granular records of employment histories from two countries. Third, we will demonstrate how this stylised theory can be mapped into a computational form that is consistent with the analytical predictions about the average behaviour, but much richer in terms of the heterogeneity of firms. Fourth, we will show how this computational tool can be used to study targeted shocks and the effect of their different transmission channels. Finally, we will showcase a new web application, designed to explore the effect of shocks and policies intended to mitigate aggregate unemployment.