**Workshop Proposal: "Techniques for measuring regional productivity"**

**2h30’**

**About the workshop**

It is proposed to present the methods to measure regional performance in terms of efficiency and productivity. Among other things, participants will learn how to use Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA) to estimate efficiency, technical change and efficiency change. Practical expertise will be acquired for implementing these methods using different packages using the R programming language.

**Schedule**

1. **Review of the literature on efficiency and regional productivity**

A summary of the existing works that estimate regional efficiency and productivity will be presented here. We will pay special attention to the methodology used, the variables defined and the results obtained.

1. **DEA and efficiency análisis**

This module introduces the concept of total factor productivity (TFP) and the associated efficiency measures based on the selected orientation.

1. **Malmquist index numbers.**

This module shows how to calculate Malmquist indices. Participants will learn to estimate and interpret the Malmquist index numbers and their decomposition into indicators of technological change and technical efficiency change.

1. **Stochastic Frontier Analysis (SFA).**

This module shows how to estimate efficiency and productivity change using parametric frontiers. Models for both cross-sectional as well as panel data will be presented and discussed.