## LOCAL ORGANIZING COMMITEE

DEPARTMENT OF COMPUTER, CONTROL, AND MANAGEMENT ENGINEERING ANTONIO RUBERTI



# Organising Committee

Alessandro Avenali Cinzia Daraio Giorgio Matteucci

*Technical Support* Simone Di Leo Giammarco Quaglia

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RISIS2 EU Project

## ORGANIZATIONAL DETAILS

## Online course including:

- On-line lectures presenting the main methods for causal discovery based on graphical models
- Group exercises where participants will experiment the different approaches available based on graphical models
- Plenary discussion on the exercises carried out

**Cost and Fees:** No registration fees to be paid by European Participants

**Registration**: send the application form and CV by email at dileo@diag.uniroma1.it

To ask the certificate of participation write an email at giammarco.quaglia@uniroma1.it

DEADLINE FOR REGISTRATION April 30<sup>th</sup>, 2023

# RESEARCH INFRASTRUCTURE FOR SCIENCE AND INNOVATION POLICY STUDIES

DEPARTMENT OF COMPUTER, CONTROL, AND MANAGEMENT ENGINEERING ANTONIO RUBERTI



# **Methods in Action Series**

Pitfalls and Potentialities of Probabilistic Graphical Models May 8<sup>th</sup> 11<sup>th</sup> 15<sup>th</sup> , 2023



This project is funded by the European Union under Horizon2020 Research and Innovation Programme Grant Agreement n°824091

## COURSE OBJECTIVES

- Introduce Graphical Models to identify causal relationships
- Introduce to the use of Graphical Models for explanation or for predicting the effects of policy interventions.
- Offer a review of the methods for causal discovery based on graphical models that were developed in the past three decades.
- Present illustrations and applications to real data
- Practice in groups on the presented models

### **PROGRAM AND CONTENTS**

#### <u>8 May 2023</u>

9:00–09:15 Introduction to the Course 09:15–10:30 Lecture on Graphical Models for Causal Inference by **Alessio Moneta** 10:30-10:45 Coffee break 10:45–11:30 Examples and illustrations in R by **Alessio Moneta** 11:30–12:00 Task assignment

<u>11 May 2023</u> 13:00–15:00 interim discussion with groups lead by **Simone Di Leo** and **Giammarco Quaglia** 

<u>15 May 2023</u> 9:00–11:00 Group presentations 11:00–12:00 Final discussion and assessment

Short bio: Alessio Moneta is Associate Professor of Economics at the Institute of Economics and coordinator of the PhD Program in Economics, Scuola Superiore Sant'Anna, Pisa. His research interests lie on causal inference in macroeconometrics, model validation, applied macroeconomics, and methodology of economics.

## AUDIENCE TARGETED

The course aims at involving participants among the following categories:

- Early career researchers
- PhD students
- People from the policy making world wishing to extend their analytical capabilities
- Data scientists interested in knowing the potentialities Graphical Models for causal inference

#### **REQUIREMENT FOR PARTICIPATION**

Basic requisites for admission will be:

- Knowledge of basic principle of statistics
- Basic knowledge of the software R