**Your mission (which you must accept!)**

**A network « cluster » has been assigned to you.**

This (real) cluster of individual agents (scientists) has been observed in two subsequent periods of time: before and after a policy intervention. In the first period, no one is “treated”, while in the second period, all individuals are “treated” [[1]](#footnote-1).

The data consist in two csv files that can be connected via individual identifiers (id):

1. Table « nodes » gives you (time-invariant) information on individual agents,
2. Table « edges » gives you (time-varying) information on dyads.

**Table Nodes:**

Id: individual identifier

coord: =1 if that person is the coordinator of the cluster

core  = 1 if that person has been identified as a « core » member of the cluster (this variable does not have a network meaning)

gender = 1 if that person is a female

**Table Edges**

source: id of the first node of the dyad

target: id of the second node of the dyad

pre\_link: "Active scientific collaboration in the dyad before treatment"

post\_link: "Active scientific collaboration in the dyad after treatment"

All bilateral scientific collaborations are undirected (in fact all dyad appear twice, once in each direction).

**Objectives:**

1. Depict and analyze network structure and its evolution between the two periods (before and after treatment) with relevant network statistics and graphs.
2. Discuss network connections with respect to gender and core attributes. Hypotheses to be explored might be: Relative to men, do women have less/more dense networks? Are they less/more central in the network? Do they expand more of less their network relative to men with the treatment (over time)? Does belonging to the “core” group modify these evolutions? Etc.

**Evaluation**

You are expected to provide:

* a 5 - 10 pages (max) long report (including graphs and tables),
* the code of your network analysis in the Appendix of the report.

Criteria for you evaluation:

* your ability to stress clearly expressed and specific questions,
* to connect your questions with network theories presented in the course,
* to use relevant empirical methods,
* to make statements based on the data and your empirical investigations, and
* to discuss the limitations of your results.

***Your report is due May 7 2023. Good luck!***

1. Please don’t feel frustrated by not knowing much more about the data, which is actually sufficient for this small project. Knowing more could lead you down difficult paths in terms of interpretation. [↑](#footnote-ref-1)