How does team science work?

I look at what happens descriptively but also considering trajectories.

# 1. Is there team science?

## 1.1 Are these teams stable over time?

Variables needed from WoS:

* Cluster\_id
* All classic bibliometric indicators
* Number of collaborators from same institution
* Number of external collaborators
* Number of collaborators from same institution by publication
* Number of external collaborators by publication

## 1.2 Is there activity visible through co-authorship?

Check groups identified with manual checking in the web and maybe interviews

# 2. Do research teams operate in a coordinated way?

Here it would be interesting to understand dependence relationship. Nederhof & van Raan (1993) refer to the *star effects* as what happens when a PI retires and the research group disappears.

Here we should go beyond bibliometrics and see if there is someone in charge of the funding, someone of hiring and finding opportunities, someone who is more of a public face, etc.

Also it would be interesting to use network analysis to determine authorities, hubs, etc. and contrast with their judgment

Variables needed from WoS:

* Authorship position.
* Acknowledgments data
* Clusters from Ludo’s subject classification to identify areas of specialization per subject.

Combine this with interviews plus manually checking for:

- Social media activity

- Google Scholar data

This is done to check for social engagement profiles

## 2.1 Do they have a common research agenda?

## 2.2 How is this agenda established?

# 3. How does team science affect individual trajectories?

## 3.1 How is credit shared?

## 3.1 What is the relation between the role exerted and academic status?

Cohort analysis?

## 3.2 How is continuity of supporting scientists ensured?

Probably also from interviews. How do scholars change from institution or are maintained if they are not able to ‘make the next step’.

# 4. Data and methods

The identification of research groups is done bibliometrically and based on Web of Science publications. For this I have selected all publications between 2008 and 2017 by LUMC, Leiden University or TU Delft.

|  |  |  |  |
| --- | --- | --- | --- |
|  | TU Delft | Leiden Univ | LUMC |
| Publications | 24,233 | 49,149 | 3,188 |
| Researchers | 9,975 | 14,116 | 279 |
| Collaborators | 34,409 | 117,307 | 14,153 |
| Mean au/p | 4.7 | 9.6 | 10.1 |
| Median au/p | 4 | 6 | 8 |
| Sd au/p | 5.4 | 31.5 | 18.7 |

|  |  |
| --- | --- |
|  | **B** |
| **C** |
| **D** |

TU Delft profile

LUMC profile

Leiden Univ