

## Aims and objectives

**Accurate** information on gender disparity in research output is scarce. This study aims at conducting a quantitative analysis of the research output of Dublin City University (DCU) researchers from different schools and answering the following questions:

- How do male/female authors compare in their research output in terms of total number of publications AND citation statistics?
- What is the relative distribution of male/female authors among first/middle/last authors?
- What are the most salient publication patterns of male/female authors in terms of collaboration including:
  - Number of authors per paper
  - National OR international collaborations

## Methodology

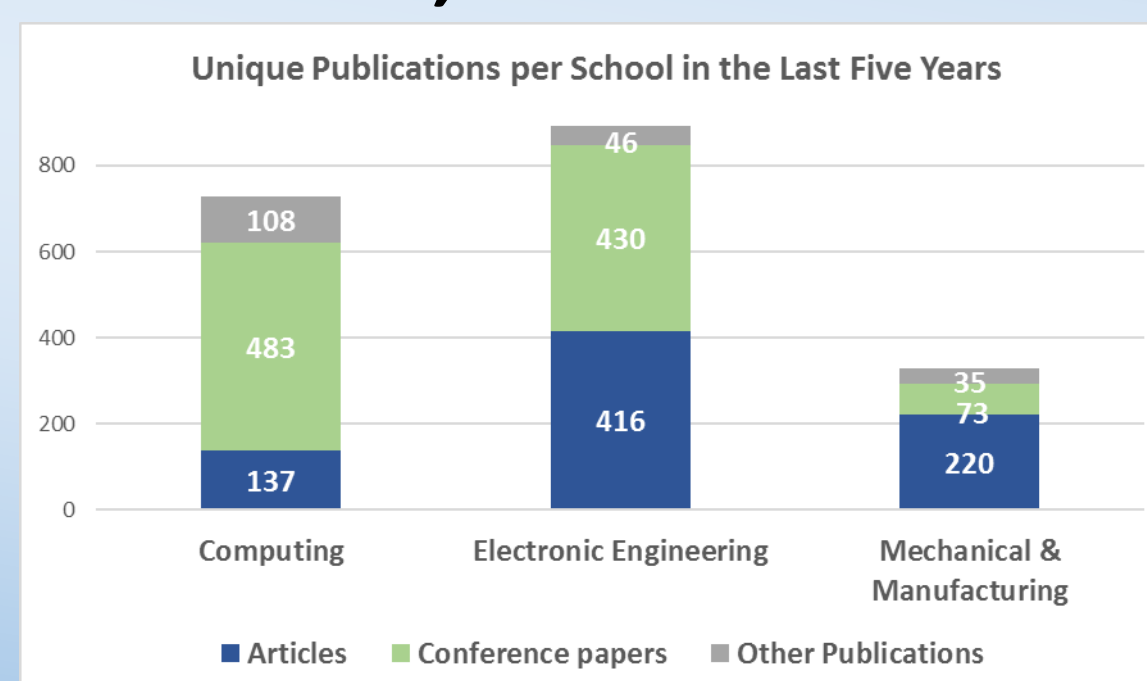
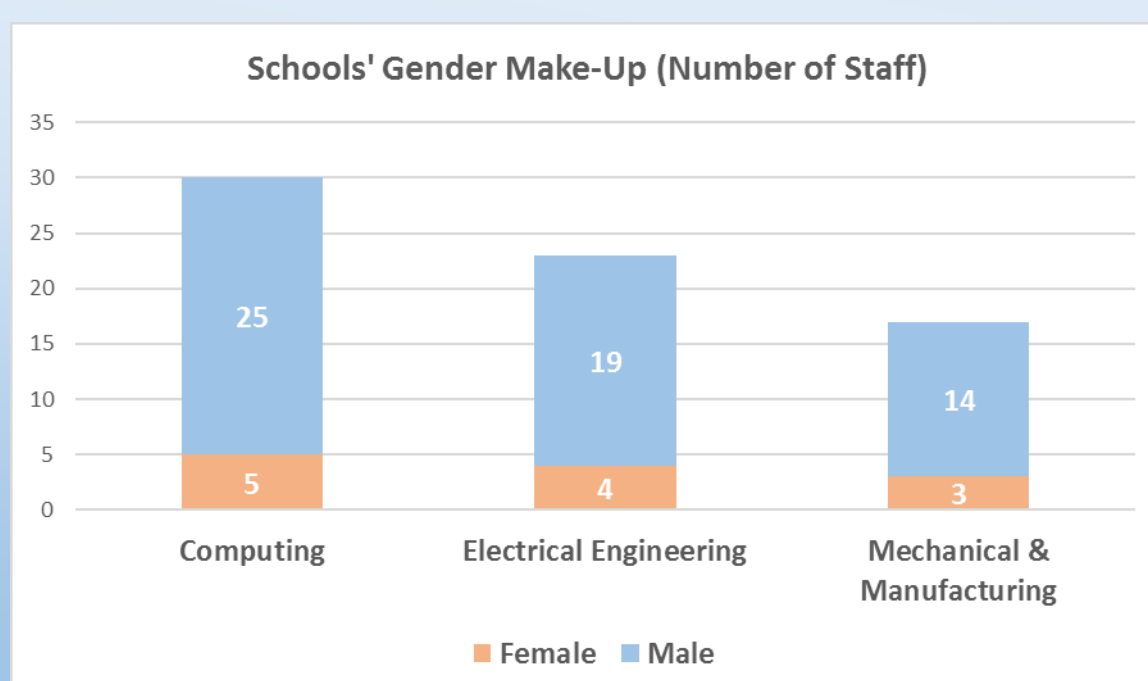
Acquire a list of staff and their gender from three schools within DCU

Download the list of registered publications in Scopus in the last 5 years

Analyze publications and citation statistics and identify patterns

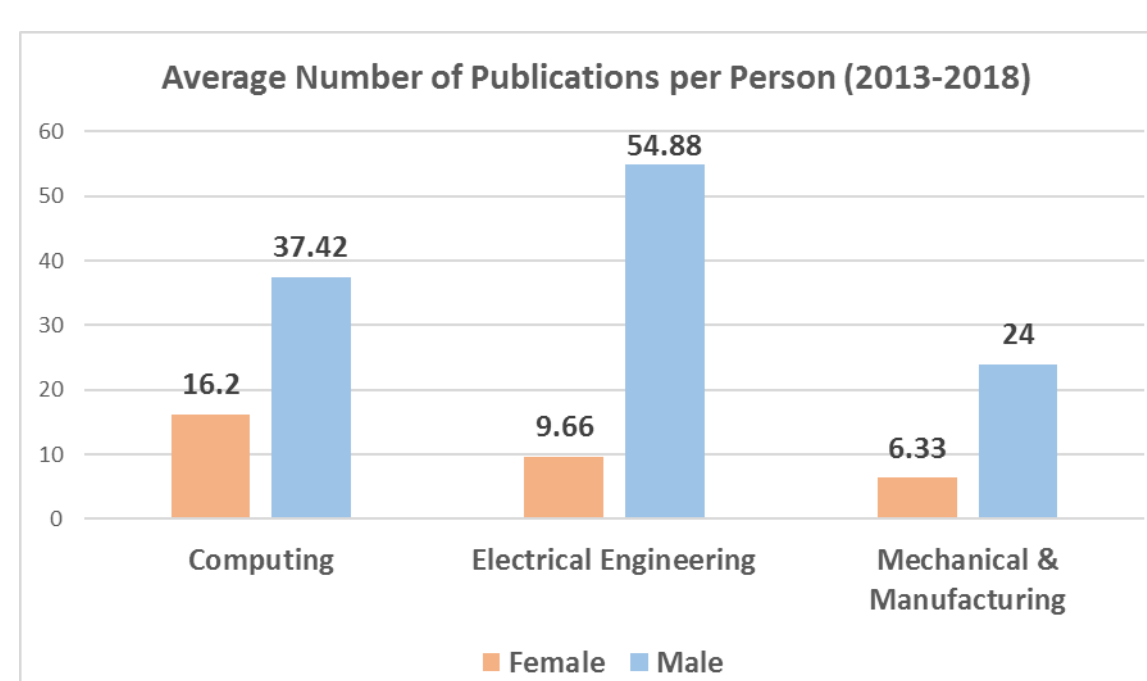
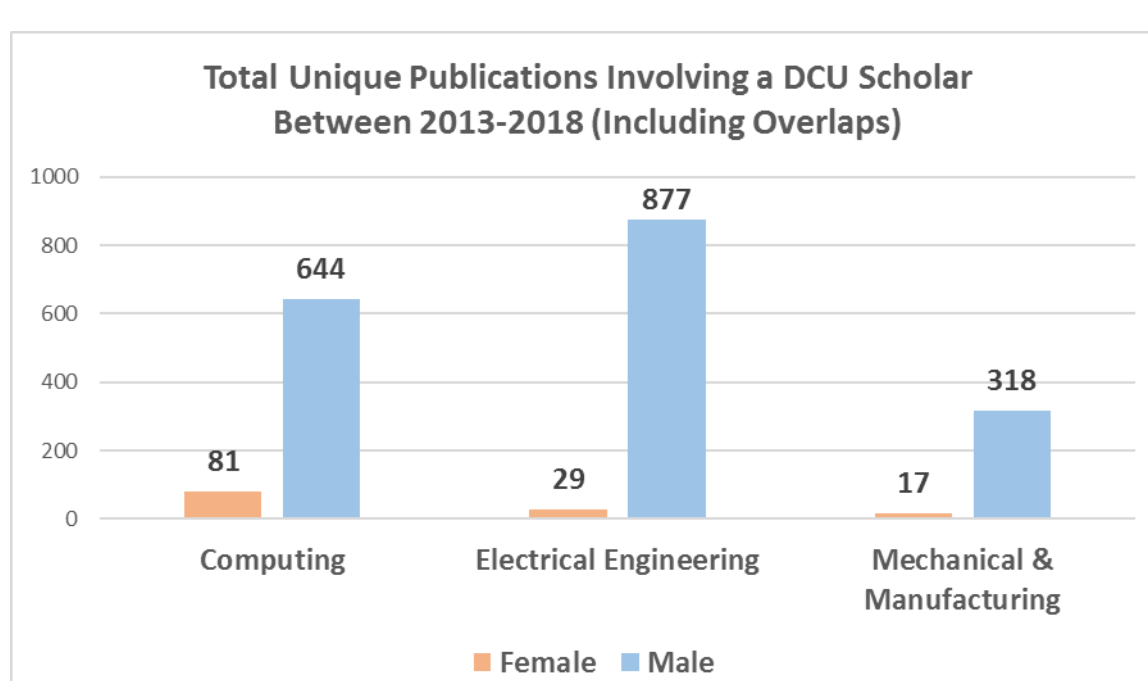
## Key findings

### Three schools, different norms and patterns in relation to publications

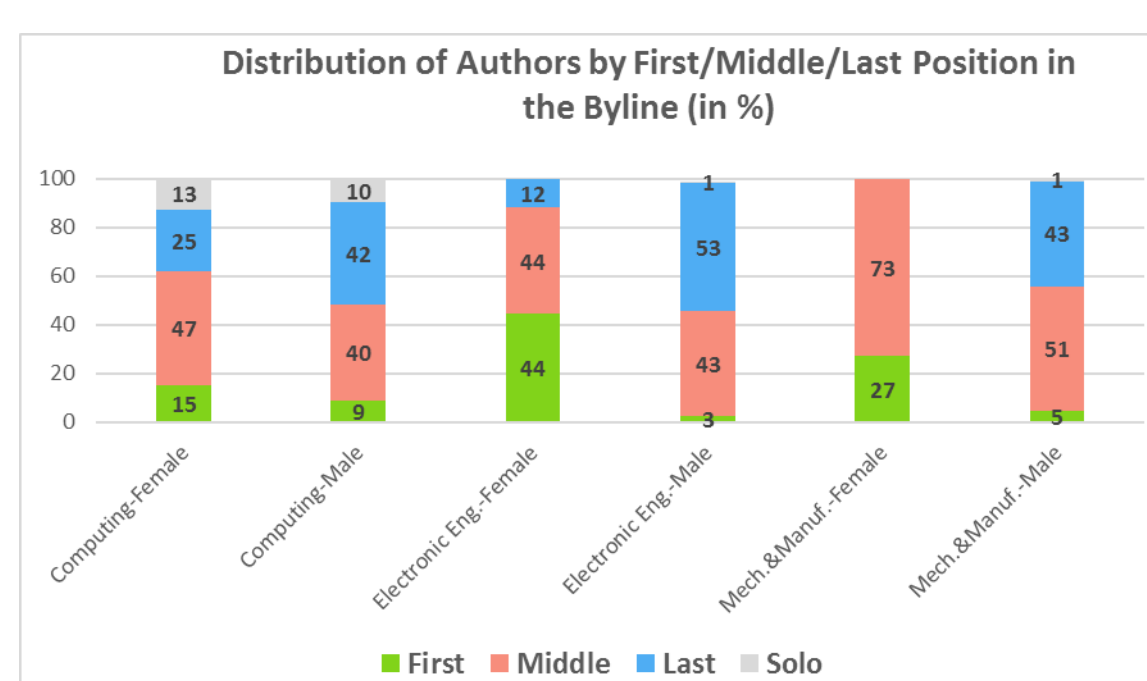
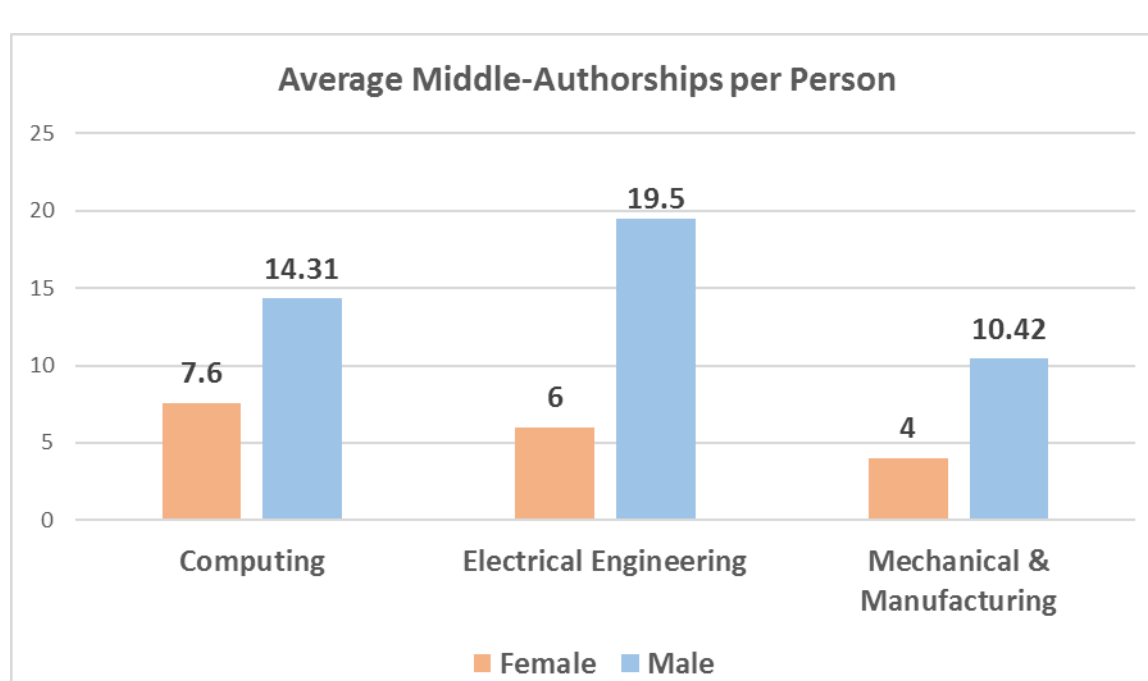


- These schools are mainly dominated by male researchers.
- Differences in the frequency of publications and most common publication types in each school suggest that, in studying the gender imbalance in relation to research output (or other bibliometric analyses), scholars from various disciplines should not be compared with one another, nor should they be clustered into one category based on their gender. Therefore, in this project, we will analyse gender imbalance in research output per school, so that female authors are compared with male authors of the same discipline.

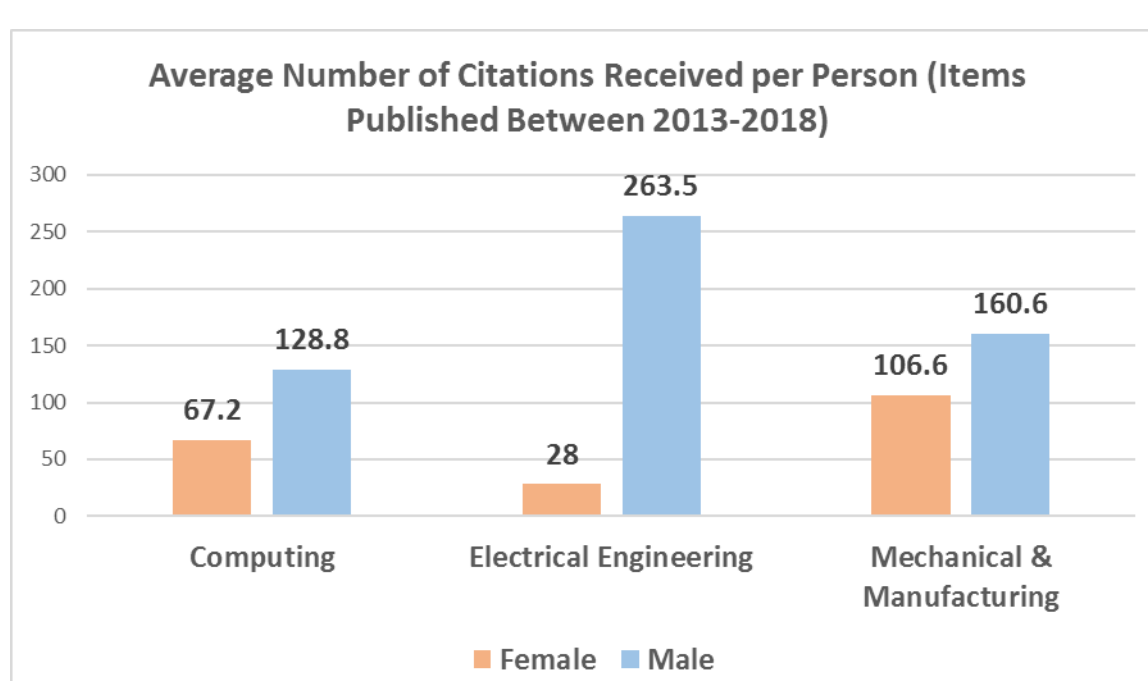
### On average, female scholars publish less and receive fewer citations



- Over the last five years, female authors have been involved in fewer publications. Given the differences in schools' gender make-up, average number of publications per person provides a more realistic picture of the difference between male and female scholars.
- Six scholars who were involved in more than 100 publications were all male scholars.
- The most salient gender imbalance is in the school of Electronic Engineering where on average, each male scholar publishes nearly six times as often as any female scholar.

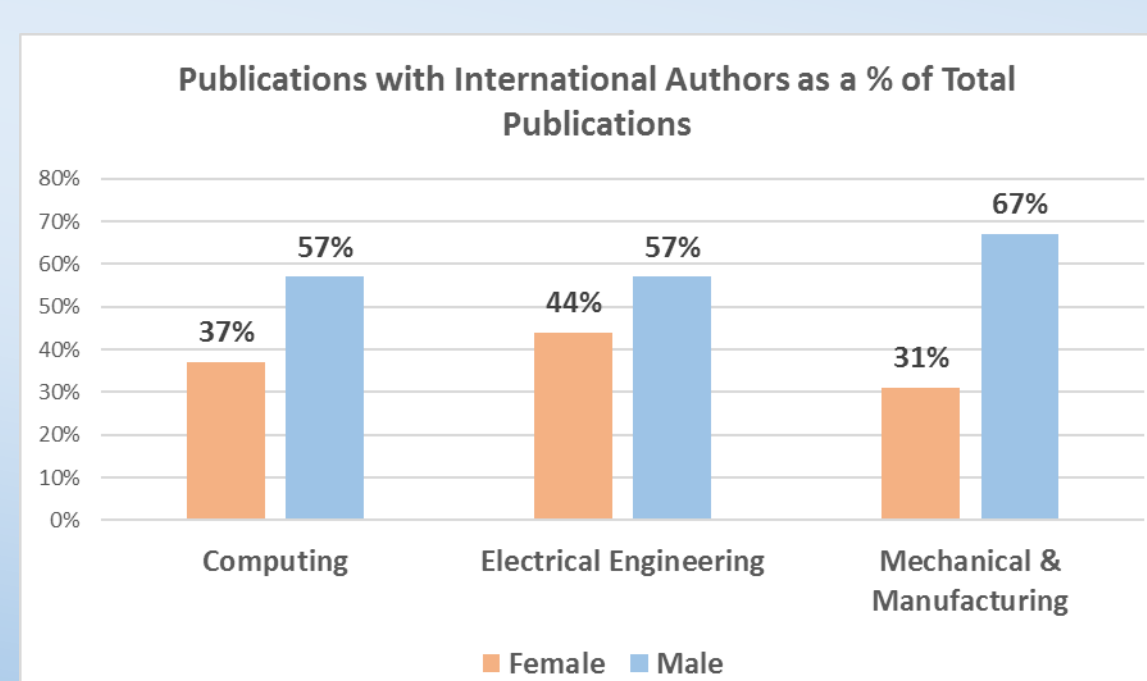
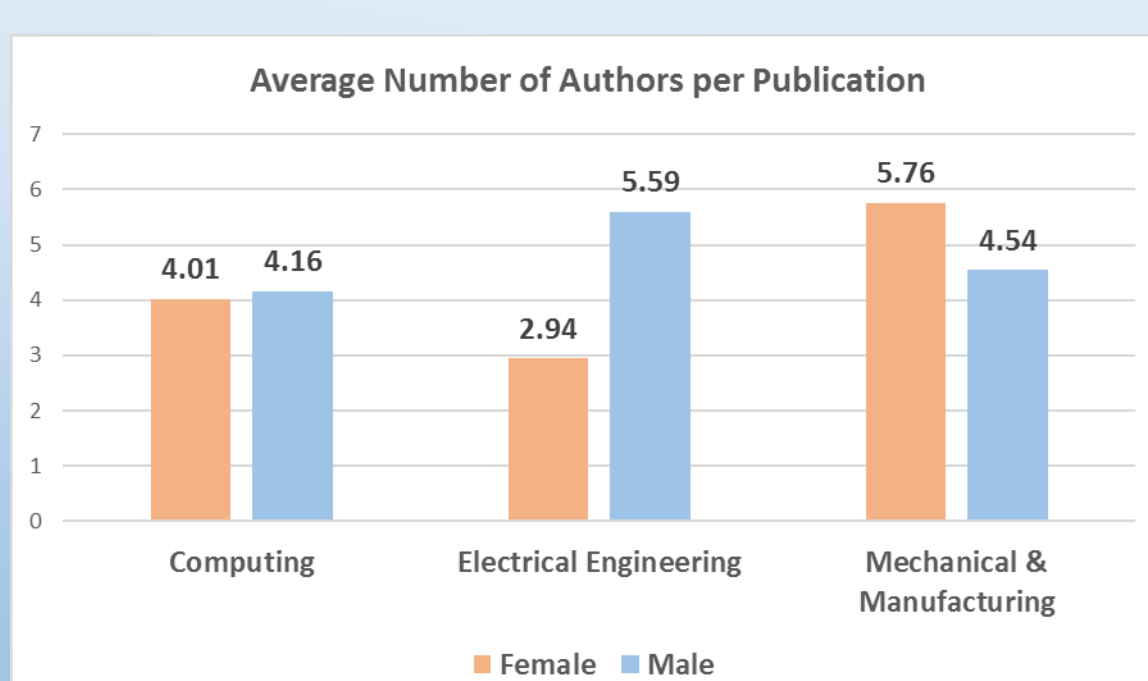


- It is widely accepted that in addition to contribution levels and types, first/last authorship positions are proxies for seniority and experience. That suggests that differences between first or last author positions are likely related to the positions held by scholars. That said, male authors have also received much more middle-authorship credit per person.
- Middle authors are often regarded as being least likely to have contributed to the intellectual work of the study. Therefore, the average middle authorship awarded to each scholar can be illuminating in terms of minor contributions that yielded authorship credit.



- The imbalance in scholarly output is also mirrored in the received citations. On average male authors have received far more citations than their female counterparts. The two could be linked, as being involved in more publications leads to more connections and involvement in more cycles of credit.
- The largest disparity is visible in the school of Electrical Engineering where a few hyper-productive male authors (who also happen to receive many more citations per article) tilt the balance. The top two authors have published 236 and 157 items in a five year period, and received 797 and 1415 citations on these items.

### Male authors collaborate with more scholars and are involved in more international collaborations



- The number of authors per publication and male/female authorship patterns differ per school. Overall, when looking at the body of work of male authors, the average number of contributors per publication is higher.
- Female authors seem to prefer working with authors affiliated with Irish institutions, and authors from DCU in particular. Male authors on the other hand, have collaborated more with authors from international institutions.

## Next Phase

After conducting the same analysis for other schools, having access to the following information will add more context to our study:

- Since when are each of those authors employed by DCU, and especially in cases of female authors, have they had any breaks (e.g. maternity leave)?
- Are these authors full-time or part-time employees?