# THE SOCIAL SPACE OF SUSTAINABILITY SCIENCE: A BIBLIOMETRIC STUDY OF LEADING JOURNALS

(2001-2021)



## THE SWEDISH SCHOOL OF LIBRARY AND INFORMATION SCIENCE UNIVERSITY OF BORAS

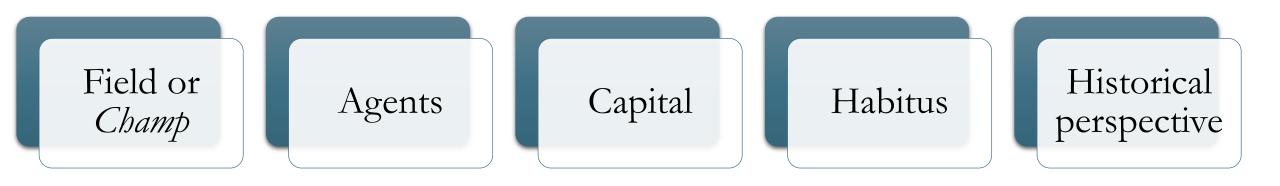
Marco Schirone

University of Borås &

Chalmers University of Technology

marco.schirone@hb.se

#### PIERRE BOURDIEU'S SOCIAL SPACE



# Gingras (1991) on the field of Canadian Physics (historical perspective)

Cronin (2005) and Gingras (2008) on symbolic capital

### (SOME) PREVIOUS RESEARCH

Social capital & co-authorship (Abbasi et. 2014)

Other proxies for capital besides citations (Desrochers et al., 2018)

Costly collaboration and negative capital (Mongeon & Larivière, 2016)

#### SUSTAINABILITY SCIENCE



Emerging field



Journals as "objectified capital"

- Leading journals embed more symbolic capital
- (JIF > the average in the field)

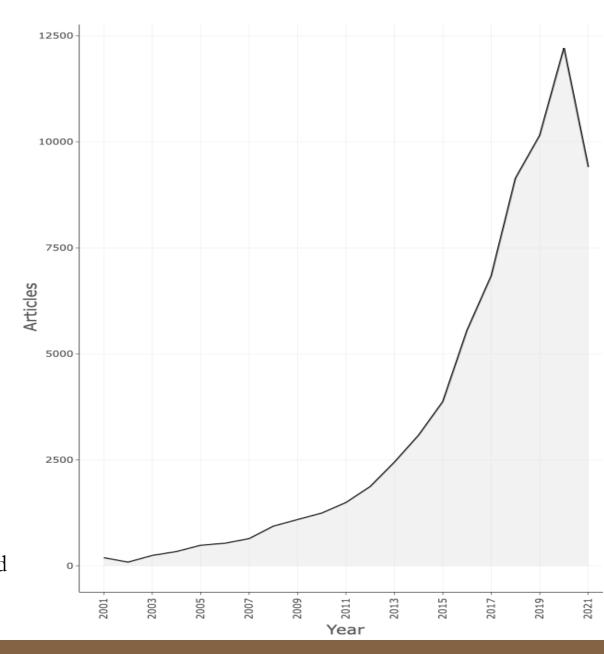


#### Which agents?

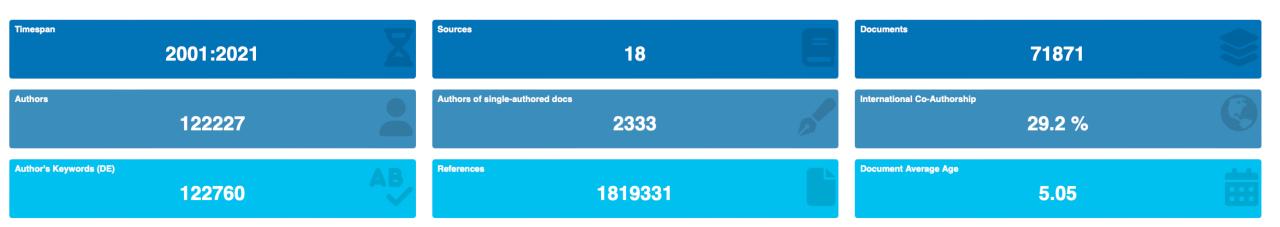
• university and research centers as collective agents

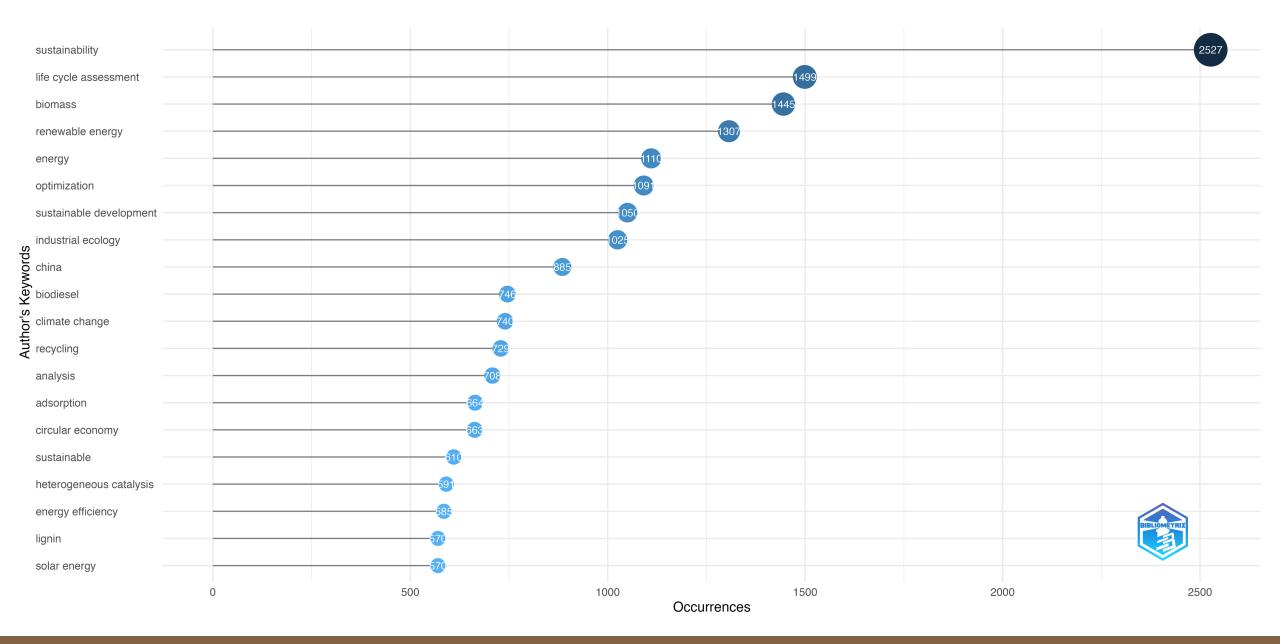
#### THE DATA

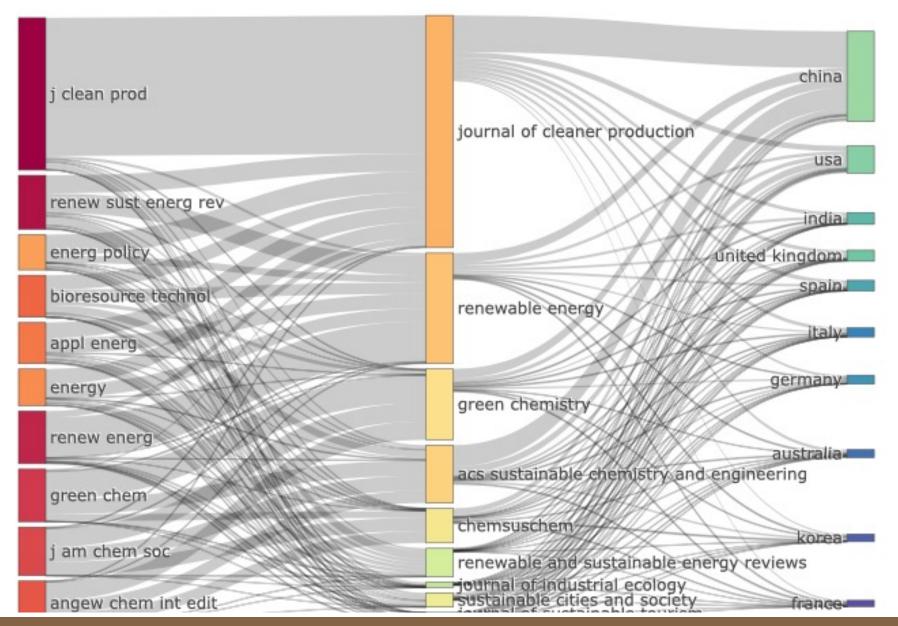
- ❖ From Web of Science (Core Collection)
- ❖ Category "Green & Sustainable Science & Technology" (Bautista-Puig et al. 2021)
- ❖ Number of documents: 71871 (articles only)
- ❖ Data analysis with *bibliometrix* (Aria & Cuccurullo, 2017)
  - o Focus on:
    - > symbolic capital through journal co-citation (see Gingras, 2008);
    - Countries and Affiliation co-authorship (social and symbolic capital)



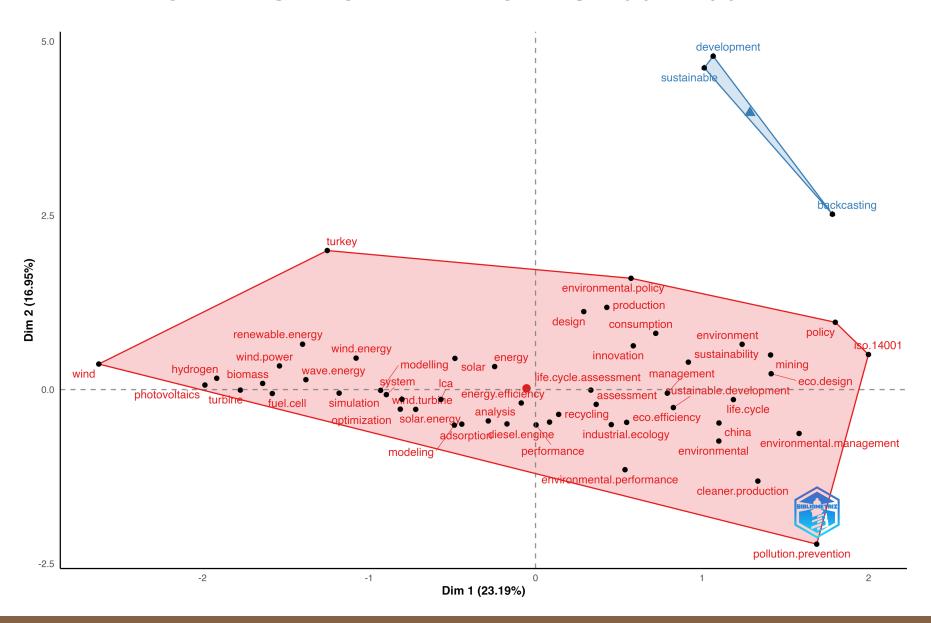
#### MAIN INFORMATION ON THE DATASET



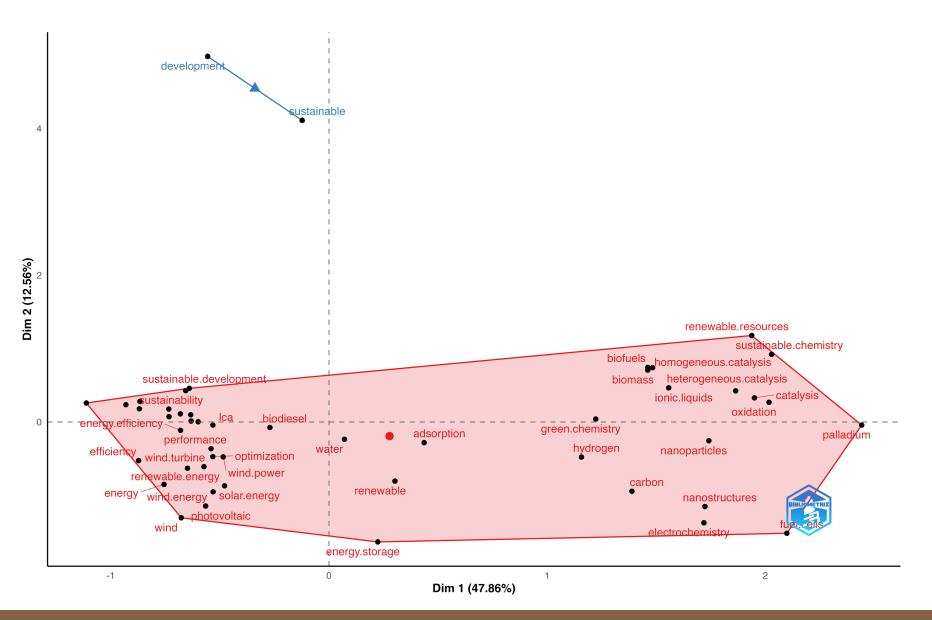




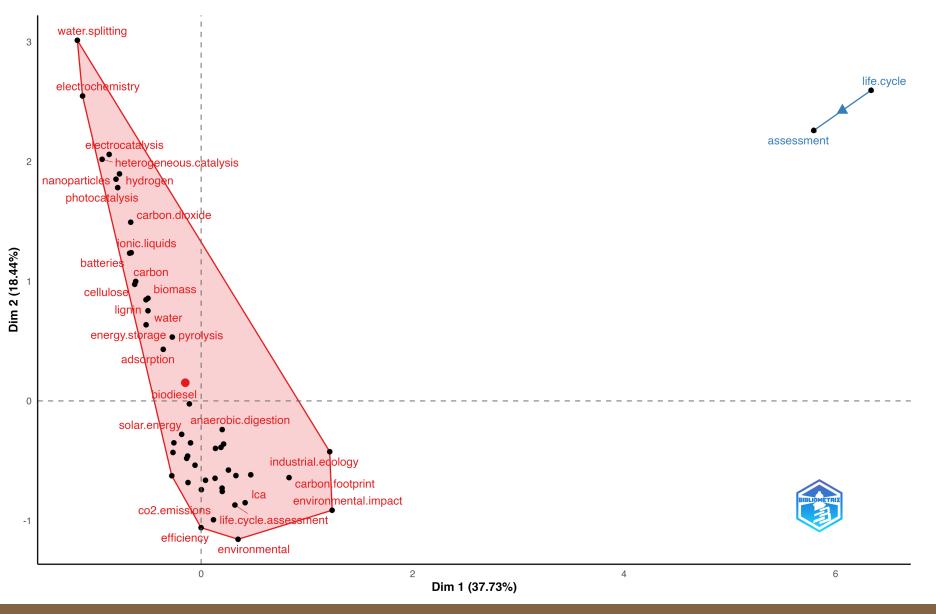
#### MCA – AUTHOR KEYWORDS 2001-2007

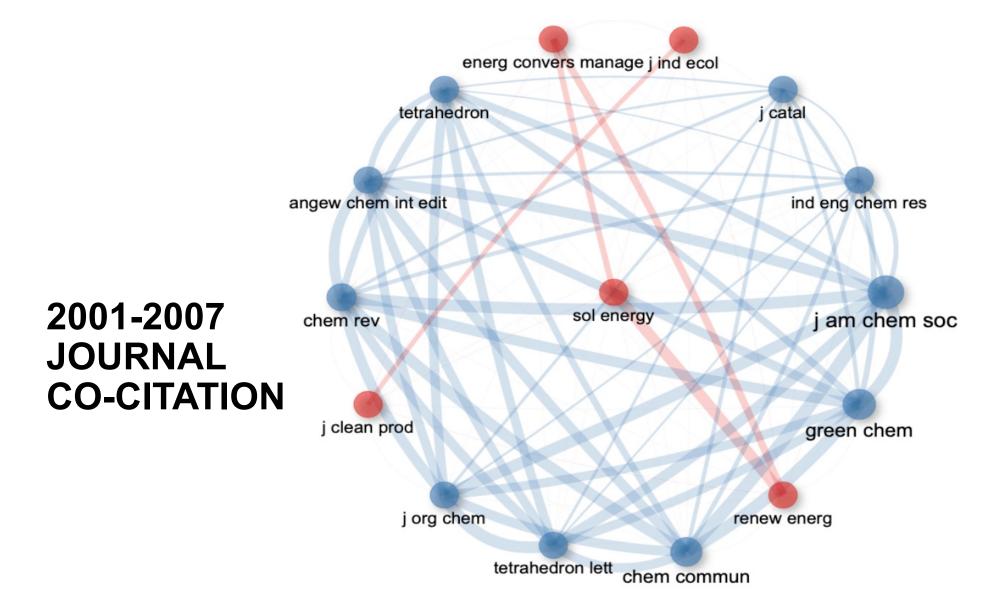


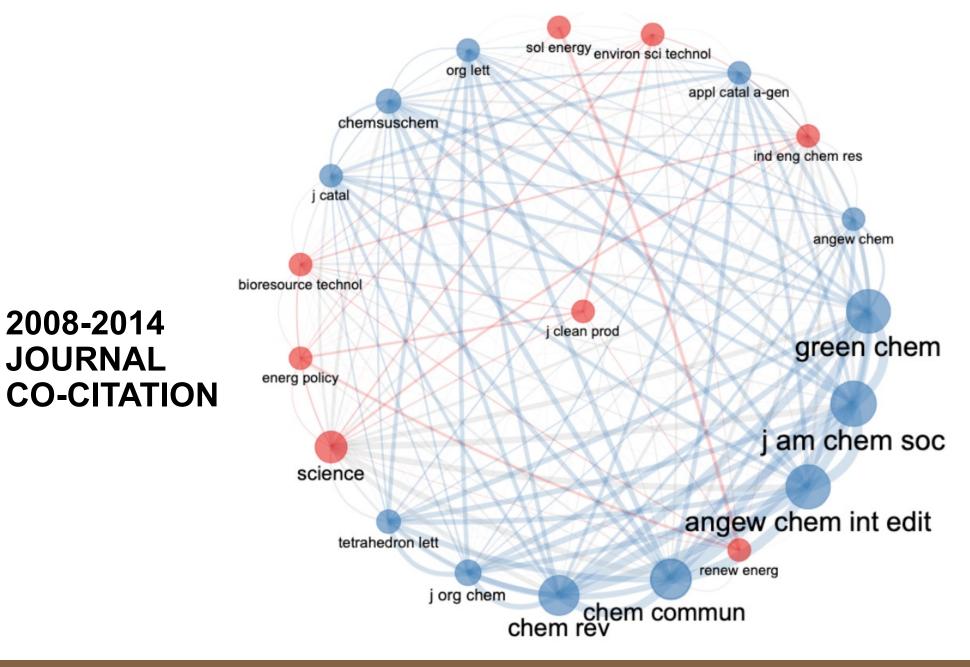
#### MCA – AUTHOR KEYWORDS 2008-2014



#### MCA – AUTHOR KEYWORDS 2015-2021

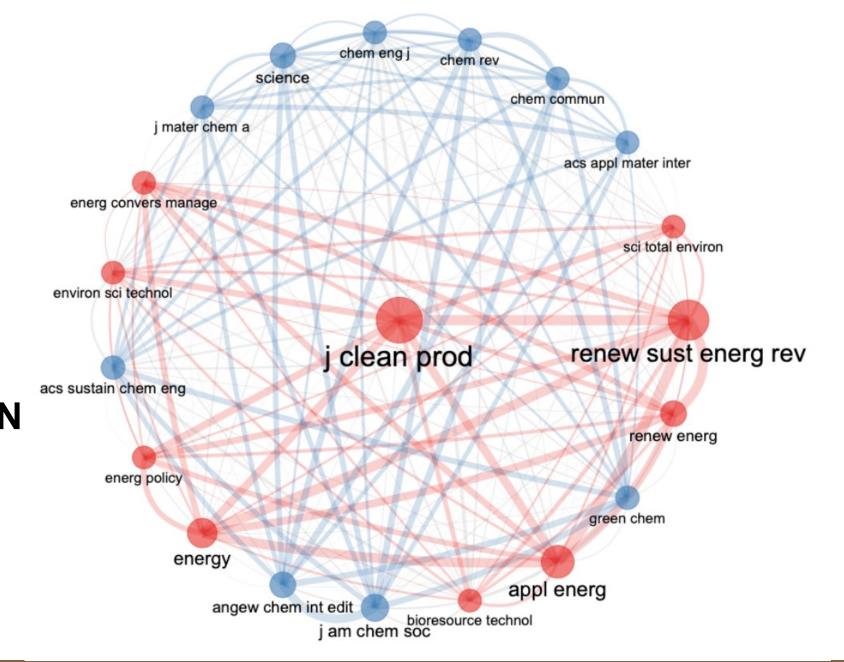






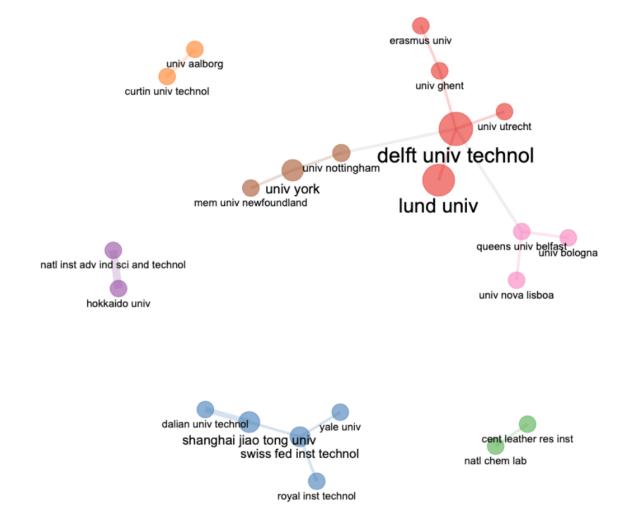
2008-2014

**JOURNAL** 

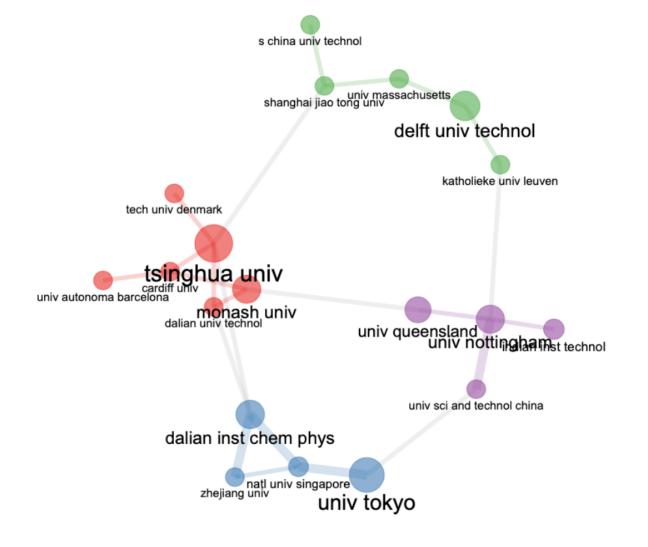


2015-2021 JOURNAL CO-CITATION

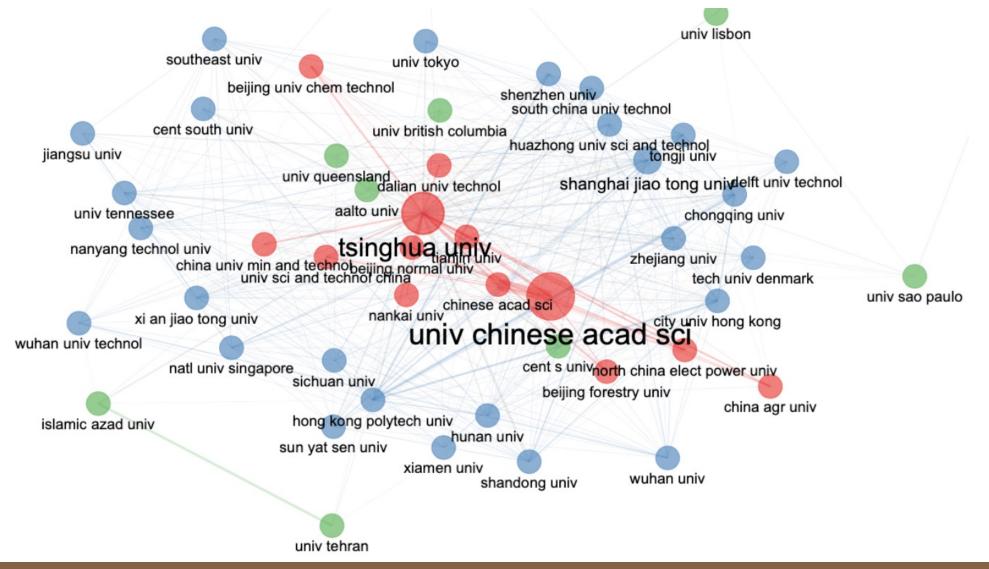
#### 2001-2007 AFFILIATION CO-AUTHORSHIP



#### 2008-2014 AFFILIATION CO-AUTHORSHIP

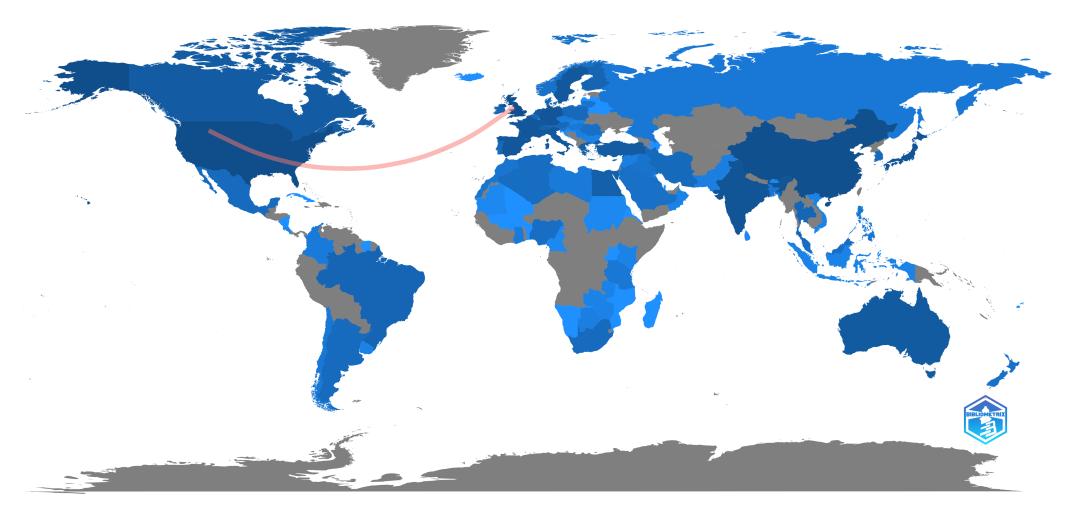


#### 2015-2021 AFFILIATION CO-AUTHORSHIP



### Longitude

#### 2001-2007 CO-AUTHORSHIP MAP



Latitude

#### 2008-2014 CO-AUTHORSHIP MAP

#### **2015-2021 CO-AUTHORSHIP MAP**

Latitude

#### **FINDINGS**

- Shift from the chemistry-related journals to the energy research + life cicle assessment.
- Increase in the symbolic capital associated with the Journal of Cleaner Production.
- More significant presence of Chinese universities in 2015-2021.
- Social capital at a global level of countries (with the extension to more countries in the Global South). Sustianability research *with* vis-à-vis resarch *on*?
- Role of Japan (and the University of Tokyo) in the "disciplinarisation" of the field (the journal *Sustainability Science*).
- The topic of "Sustainability" versus "Sustainable Development."

#### **REFERENCES**

Abbasi, A., Wigand, R. T., & Hossain, L. (2014). Measuring social capital through network analysis and its influence on individual performance. Library & Information Science Research, 36(1), 66-73. https://doi.org/https://doi.org/10.1016/j.lisr.2013.08.001

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959-975. https://doi.org/10.1016/j.joi.2017.08.007

Bautista-Puig, N., Manana-Rodriguez, J., & Serrano-Lopez, A. E. (2021). Role taxonomy of green and sustainable science and technology journals: exportation, importation, specialization and interdisciplinarity. Scientometrics, 126(5), 3871-3892. https://doi.org/10.1007/s11192-021-03939-6

Cronin, B. (2005). The hand of science: Academic writing and its rewards. Scarecrow Press.

Desrochers, N., Paul-Hus, A., Haustein, S., Costas, R., Mongeon, P., Quan-Haase, A., Bowman, T. D., Pecoskie, J., Tsou, A., & Larivière, V. (2018). Authorship, citations, acknowledgments and visibility in social media: Symbolic capital in the multifaceted reward system of science. *Social Science Information*, 57(2), 223-248. https://doi.org/10.1177/0539018417752089

Gingras, Y. (1991). Physics and the rise of scientific research in Canada. McGill-Queen's University Press.

Gingras, Y. (2008). The Collective Construction of Scientific Memory: The Einstein-Poincaré Connection and its Discontents, 1905–2005. *History of Science*, 46(1), 75-114. https://doi.org/10.1177/007327530804600103

Mongeon, P., & Larivière, V. (2016). Costly collaborations: The impact of scientific fraud on co-authors' careers. *Journal of the Association for Information Science and Technology*, 67(3), 535-542. https://doi.org/10.1002/asi.23421