

Popular summary

The goal of the project is to provide theoretical foundations for the changing, reciprocal relationships between research productivity (at the level of individuals, institutions, and countries) and collaboration patterns (at the same levels) in the emergent global science of the last two decades (2000-2021). Global science, driven by scientists themselves and their research interests, exists parallel to, rather than replaces, traditional international science driven by national governments and their national or bilateral funding schemes. The empirical finding that the annual increases in scientific output in major Western European science systems in the last decade (2009-2018) come exclusively from internationally co-authored publications makes it highly promising to rethink traditional theories of collaboration in science. At the same time, another empirical finding that highly productive scientists are responsible for as much as 40-50% of all academic knowledge production makes it highly promising to rethink traditional theories of research productivity. A context for the revision of the two sets of theories in the doctoral dissertation is the globalization of science which is driven by the three new mechanisms (self-organization, preferential attachment, and global elite production) and which changes the overall global – cross-national and cross-institutional – division of labor in the academic enterprise. The two working hypotheses are as follows: (1) research productivity is increasingly interconnected with new patterns of collaboration in science; and (2) the emergence of global science makes it necessary to rethink two traditional and overlapping sets of theories in the sociology of science: research productivity theories and collaboration theories.