5 Sample Workflows

Scientometric studies cover a wide array of datasets, methodologies, and results. Analysis can lead to several types of insights, as a result of asking and answering the questions "what?", "where?", "when?", and "with whom?" (topical, geospatial, temporal, and network analysis, respectively). Many studies also cover statistical surveys of scientometric datasets. For detailed descriptions of these types of scientometric analyses, see sections 4.5 Statistical Analysis through 4.9 Network Analysis.
Analysis can be performed on three major scales: micro/individual, meso/local, and macro/global. The Sci2 Tool supports workflows in all fifteen varieties of scientometric studies, as well as combination and modeling studies. The following chapter describes the workflows used to conduct scientometric studies of each type and at each scale. Tables 5.1 and 5.2 show examples of studies in each category, several of which can be found in section 6 Sample Science Studies & Online Services.

Analysis Types and Sample Studies	Micro/Individual (1-100 records)	Meso/Local (101--10,000 records)	Macro/Global (10,000 < records)
Statistical Analysis/Profiling	Individual persons and their expertise profiles	Larger labs, centers, universities, research domains, or states	All of NSF, all of US, all of science.
Temporal Analysis (When)	Funding portfolio of one individual	Mapping topic bursts in 20-years of PNAS	113 years of physics research
Geospatial Analysis (Where)	Career trajectory of one individual	Mapping a state's intellectual landscape	PNAS publications
Topical Analysis (What)	Base knowledge from which one grant draws	Knowledge flows in Chemistry research	Topic maps of NIH funding
Network Analysis (With Whom?)	NSF Co-PI network of one individual	Co-author network	NSF's core competency

Table 5.1: Major analysis types and levels of analysis.

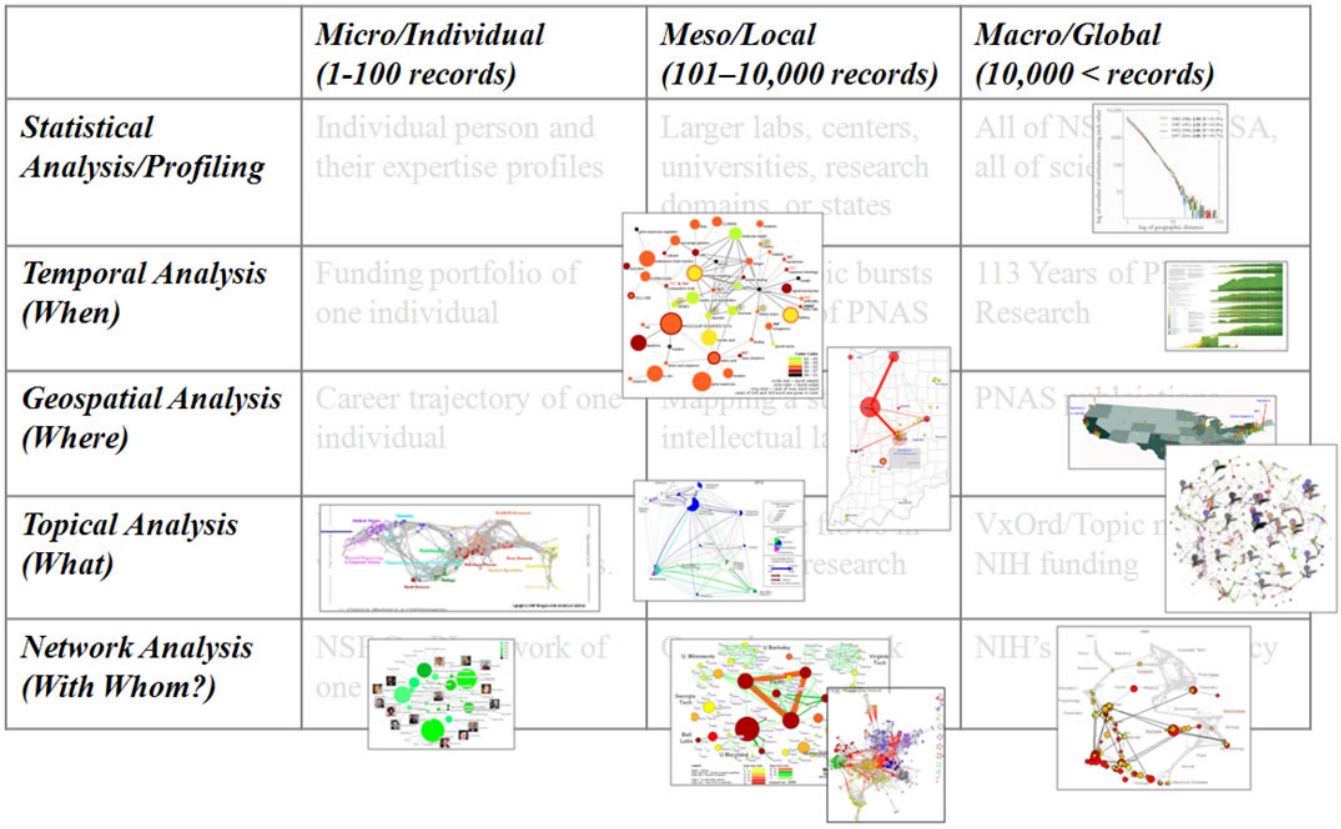

Table 5.2: Screenshots of major analysis types and levels of analysis.