

The history of astronomy shows that paradigm changing discoveries are not driven by well formulated scientific questions, based on the knowledge of the time. They were instead the result of the increase in discovery space fostered by new telescopes and instruments. An additional tool for increasing the discovery space is provided by the analysis and mining of the increasingly larger amount of archival data available to astronomers. Revolutionary observing facilities, and the state of the art astronomy archives needed to support these facilities, will open up the universe to new discovery.