

# IRIS FAQ

## **What is IRIS?**

The Institute for Research on Innovation and Science (IRIS) is a university consortium established in 2015, located at the University of Michigan. It is a national collaboration that builds data and tools to facilitate a better understanding of the process, products, and impact of scientific research activities.

## **What is the mission of IRIS?**

The mission of the Institute is to be a trusted resource for high quality data that supports independent, frontier research on science and innovation in the service of the public interest.

## **Why do we need an independent Institute for Research on Innovation and Science?**

The United States needs a strong impartial voice that provides scientific evidence on what works and what does not to foster research and innovation. Our knowledge of what works and what does not needs to be based on research, not on anecdotes and speculation.

## **Who are the key constituencies?**

Our first constituency is administrators in research organizations who use our research for management, accountability and advocacy, and support it by supplying core data assets. The research is also used by our second constituency: science funders, who use the research and information to inform investment decisions. We expect the activities of the Institute to be of great interest to Congress and to the White House – representatives of both the legislative and executive branch have repeatedly called for advances in the empirical evidence upon which to base policy. Our third constituency is the economics, social science and computational science research community, who both build and use the data infrastructure to generate high quality research to inform our other constituencies. Our goal in reaching all of these audiences is to bring rigorous science to questions of how public investment in research can continue to advance human knowledge while also improving the quality of life of the people, and taxpayers, who ultimately pay most of the bills.

## **Who does IRIS partner with and why?**

IRIS currently partners with the US Census Bureau. Our collaboration with Census enables the linkage of IRIS data submitted by member universities with Census data on people, employment records, and vendor characteristics, creating novel information on the people and companies that make up the national research enterprise. IRIS will continue to extend the data we develop through new partnerships and agreements to include additional data.

## **What data makes up the IRIS data infrastructure?**

Our data infrastructure contains longitudinal information on the researchers being directly supported on federal grants, and the vendors who are providing goods and services to support those grants. This [data](#) was originally generated as part of the STARMETRICS partnership between 5 federal science agencies, the White House Office of Science and Technology Policy, and over 90 U.S. research universities. The researchers and administrators at the Big Ten Academic Alliance universities have developed an enhanced version of the STARMETRICS [data dictionary](#), so that researchers can link out to external datasets and generate better data to model the production and impact of science. This data forms the initial

core of the IRIS data infrastructure, which is then linked to naturally-occurring data on scientific grant inputs; to publication, citation, dissertation, and patent outputs; and to biographic data on researchers that is scraped from the web and in databases. These data are linked using cutting-edge disambiguation, name-entity resolution, web scraping and entity extraction methods.

The data platform is organized in such a way as to provide dynamic links between funding “interventions” (WHO is funded by WHOM to do WHAT) and the size, structural composition, stability and duration of research networks (WHO is funded). This is then linked to the way in which ideas are created and transmitted, hence generating scientific, social, economic and workforce ‘products’ (the RESULTS of funding).

### **What is the IRIS research agenda?**

IRIS data will permit researchers to model the production and impact of science at levels ranging from the individual scientist to labs to research fields, making it possible to peer inside the production process of scientific research, as well as develop an understanding of the complex non-linear relationships that are inherent to the science and innovation process. While we cannot predict the way in which the broader scientific agenda will evolve, the Institute Principals will stimulate research in the following four areas by working with key foundations and the research community:

- The contribution of science to economic growth
- The structure and aging of the STEM workforce
- The production of biomedical science
- Develop theoretically grounded measures of the social networks that link investigators, topics, and organizations to one another

### **How will IRIS support the data infrastructure and the work products?**

The development of the IRIS business model is a community-driven effort that is still evolving. We are working closely with our stakeholder communities to identify the appropriate mix of infrastructure funding, research funding, and funding generated from subscriptions and fees to ensure the long-term sustainability of the Institute.