

## Concept Clearance – Reissue of the Shared Instrumentation Program

Since the NIH Shared Instrumentation Grant Program was established in 1982, more than 5,700 instrument grants have been awarded to hundreds of institutions across the country. Title [42 U.S. Code §283n](#) defines the program requirements as supporting the purchase of state-of-the-art, commercially available biomedical scientific instruments to be used on a shared basis. On average, a typical instrument serves over 17 NIH-funded research projects. By supporting a wide range of biomedical research activities and scientific discoveries in all disciplines of science, NIH's Shared Instrumentation Program helped retain our nation's leading position in efficiency, competitiveness, and cost-effectiveness in research operations.

As the NIH Shared Instrumentation Program uses the S10 funding mechanism, S10 has become the synonym of the popular Program widely known to the NIH research community over the past 40 years. An S10 award has a one-year funding period for grantee institutions to acquire, install, and test the instrument. After the awarded instrument is installed and commissioned, S10 grantees are required to report that the instruments are operational, well-maintained, and well-used for a 5-year period of ORIP's oversight, per NIH policy.

While cost-sharing is not required for the purchase of the instruments, the grantee institutions are obligated to support continued operation and long-term maintenance of the awarded instruments as well as house them, such as placing the instrument in a core facility to ensure its broad access. An internal advisory committee is mandated to oversee the fair and shared use of each instrument by multiple users, including arbitration of instrument usage and sharing arrangements. Applicants must demonstrate how the use of a new instrument would improve the execution of specific NIH-funded research projects.

Currently, ORIP publishes 3 Notice of Funding Opportunity announcements, with somewhat different requirements regarding budget range, types of requests, and management of instruments. Allowable award budgets overall are in the range of \$50K - \$2M. In the last 5 years, 200 different academic and research institutions from 47 states as well as DC and PR received S10 awards. The number of application submissions has fluctuated in recent years, varying from 350 to 400 applications each year due to the COVID pandemic. Similarly, between 120 and 150 instruments are awarded each year. An annual S10 portfolio in recent years indicated that S10 awarded instruments supported over 2,500 research projects and over 1500 individual investigators in nearly 100 institutions each year. Over 15,000 research publications acknowledged the use of S10 instruments, demonstrating their prominent contribution to science. Over 500 NIH Program Officers oversee these research grants that come from nearly all grant-awarding NIH Institutes and Centers, highlighting the Program's impact and NIH-wide benefits. Because of the S10 Program's NIH-wide scope and impact on NIH mission, managing this program by an OD office will promote the broadest impact on the Nation's research operations.

As a long-term investment by funding acquisition of state-of-the-art scientific instruments with the most advanced technologies, the S10 Program is indispensable for the conduct of NIH-funded biomedical research. The state-of-the-art scientific instruments supported by the S10 Program are essential for the conduct of cutting-edge, innovative, and robust experimental studies, and are critical to the most advanced visualization and analysis of complex big data by using expensive supercomputing technologies unafforded by individual research grant. The S10 program has been highly successful and impactful, continuously playing an essential role in supporting the NIH mission. ORIP requests concept clearance from the Council of Councils to continue supporting the S10 Shared Instrumentation Program.