

**INITIATIVE 2 TITLE:** Building Sustainable Software Tools for Open Science (R03 Clinical Trial Not Allowed)

**INITIATIVE TYPE:** New

**ACTIVITY CODE:** R03

**Objective:** Funding opportunity inviting collaborative applications to support development and enhancement of sustainable software tools for open science.

**DESCRIPTION:** The Sustainable Software Tools program is intended to provide a flexible mechanism to support investigators to adopt best practices for robust software design and community engagement for open science. Successful grants will enhance an NIH-funded project by: (1) supporting the development of robust, sustainable, scalable, and reproducible research software tools and workflows; (2) extending the impact of research software by broader dissemination to the scientific community; (3) supporting collaborations between biomedical and behavioral scientists and software engineers to leverage modern, best practices in software development; and (4) enhancing software skills of the biomedical and behavioral research workforce.

Applications must identify and describe the research project that will be enhanced by best practices software engineering and justify the need for the investment to produce software tools of this grade based on research impact and community support. Applicants must present a robust software development plan with clear timelines, metrics, and milestones. The plan must show best practices in software development and design to enable software that is sustainable by design. Other specific eligibility criteria and terms of award will apply to ensure appropriate use of this funding mechanism and program. Applications will be reviewed by a CSR special emphasis panel.

**Key aspects of the solicitation include:** A request up to \$150,000 in direct costs per year for a maximum of two years. Travel expenses will be allowed up to \$2,500/year. A set aside of \$6 million for FY 2024 is planned with an expectation to fund approximately 20-24 grants in the first year (exact number contingent on appropriations and number of highly meritorious applications). ODSS requests approval of the proposed concept for a 3-year cycle with 2 receipt dates each year.

**IMPORTANCE:** Scientific software has become essential for the interpretation and analysis of complex, large-scale biomedical and behavioral data. Reuse and sustainability of software tools and platforms in NIH-funded research is often limited to a specific project. In part, this limitation has emerged from traditional approaches in how software development is supported, and tools are shared that are no longer viable. This initiative will catalyze the ability of NIH-supported researchers to adopt and benefit from modern practices and philosophy of software sustainability (see [Software Sustainability Institute](#), [Research Software Alliance](#), [Better Scientific Software](#)). The [FAIR4RS](#) Principles provide a similar guide to sustainable, reusable software based on the adoption of fundamental design principles and innovations in modern computing.

**HISTORY:** The initiative builds on the results, experiences, and uptake by NIH-supported researchers in three cycles of support to enhance software foundations in ODSS-funded administrative supplements (most recently [NOT-OD-22-068](#)). To date the funding opportunity has had broad reach, funding 94 supplements across 19 ICs and sponsoring a program meeting to share results ([ODSS Software Tools](#)). The goal of this FOA is to create a more inclusive funding opportunity to expand the pool of eligible applicants while preserving the emphasis on the sustainable development of open, robust, scalable, and user-friendly scientific software.

**CONCEPT CLEARANCE DATE:**

**COUNCIL REMARKS:**