

Optimizing Sample Collection and Accessibility through the Biospecimen and Tissue Sharing Collection (BTSC) Program

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The Space Radiation Element (SRE) of the Human Research Program (HRP) is dedicated to establishing a robust biospecimen and tissue sharing collection (BTSC) program that enhances sample collection, tracking, access, distribution, and usability, with the goal of maximizing scientific return. By leveraging biospecimens and tissues from previous experiments, HRP effectively achieves its scientific objectives in characterizing and mitigating the human health impacts of spaceflight while optimizing resource utilization. To further improve the usability and accessibility of the current biospecimen archive, the project aims to expand upon NASA's existing resources and institutional knowledge, ensuring ongoing modernization.

To facilitate seamless navigation of the program's workflow, an educational series on the BTSC program is provided to Principal Investigators (PIs). This comprehensive series equips PIs with crucial information on submitting their inventory via the BTSC Metadata Intake Form, ultimately leading to the public availability of their data on NASA's Life Science Portal (NLSP). Covering various aspects such as metadata submission instructions and backend processes for transferring metadata to the Laboratory Information Management System (LIMS), the series incorporates guidance from NASA's Biological Institutional Scientific Collection (NBISC) and Ames Life Sciences Data Archive (ALSDA).

The BTSC program represents a significant stride towards enhancing the usability and accessibility of biospecimens for space research. By enabling NASA to deepen its understanding of the health implications of long-term spaceflight, this initiative plays a pivotal role in ensuring the safety and well-being of astronauts.