

ICFA Statement

A new ICFA panel on the Data Lifecycle

17 January 2024

Data are the cornerstone of scientific research – successful science relies on the mastering of all steps in the data lifecycle from acquisition to processing, distribution, storage, access, analysis, simulation and preservation. These steps are enabled by software, workflows, computing and networking resources. Together, these processes and resources enable the full Data Lifecycle that is central to scientific discovery today.

As exciting new capabilities and approaches are applied to particle physics research and its data lifecycles, and as new expectations for the incorporation of FAIR (Findable, Accessible, Interoperable, Reusable) practices and Open Science principles gain in importance, ICFA recognizes the increasing need to foster and encourage cooperation, coordination and advancement in all these aspects through an integrated systems approach to the data lifecycle.

In order to best accommodate these opportunities, challenges and demands, ICFA is establishing a new “Panel on the Data Lifecycle” with a mission to:

- address all aspects of the data lifecycle within a structured and integrated systems approach in HEP, encompassing the efforts and expertise from previous panels, and relating to and building on activities of other relevant bodies and committees;
- encourage global cooperation on the data lifecycle in particle physics and with neighbouring fields;
- discuss strategic questions and recommend to the community future directions;
- encourage engagement with and profit from industry expertise in data management solutions, in artificial intelligence, and in systems competence;
- develop ideas and strategies for workforce and career development and for professional recognition mechanisms within the topical areas of the panel.

Two existing ICFA panels, the Panel on Data Preservation in High-Energy Physics and the Standing Committee for Interregional Connectivity have long tackled certain of the data lifecycle aspects; they will be retired as the scope of those panels is now fully represented within the mandate of the new Panel. ICFA is enthusiastic about the role that this new panel will take in enhancing global coordination on all aspects of the data lifecycle for particle physics with an eye toward open science and FAIR practices.