

March 13, 2024

Office of Data Science Strategy
National Institute of Health
9000 Rockville Pike
Bethesda, MD 20892

RE: Comments on the National Institutes of Health (NIH) Strategic Plan for Data Science 2023-2028

The American Society for Biochemistry and Molecular Biology is an international nonprofit scientific and educational organization that represents more than 12,000 students, researchers, educators and industry professionals. The ASBMB strongly advocates for strengthening the science, technology, engineering and mathematics (STEM) workforce, supporting sustainable funding for the American research enterprise, ensuring diversity, equity and inclusion in STEM, and addressing emerging issues in the scientific enterprise.

The ASBMB appreciates the opportunity to respond to the National Institute of Health's strategic plan for data science. The plan is comprehensive and includes clear goals for implementing data science policies throughout the agency. As the NIH continues to solidify the strategic plan, the society encourages it to exhibit leadership in data science by establishing a centralized repository and establishing an agency-approved seal for best data-sharing practices.

The ASBMB has recommendations for each topic:

Recommendation 1: The appropriateness of the goals of the plan, the strategies and implementation tactics proposed to achieve them; including potential benefits, drawbacks or challenges

The ASBMB commends NIH for establishing well-thought-out and comprehensive goals for the new data science strategic plan. As the NIH rolls out its plan, the society encourages the agency to hold listening sessions with key stakeholders, including principal investigators, libraries, scientific nonprofit organizations and scientific societies.

The primary benefits of this strategic plan is that it can streamline administrative processes, establish standards, and create training opportunities for the next generation of scientists. To ensure that the training encompasses emerging issues in data science, we recommend that the NIH create cross-disciplinary training opportunities for data science and computational science along with funding opportunities to hold convenings for cross-disciplinary collaborations.

In terms of challenges, the society foresees problems arising relating to structural biology databases. Many databases for structural biology rely on sustained funding. However, funding mechanisms for structural biology databases, such as the [Biological Magnetic Resonance Data Bank](#), run on four- to five-year grants with no on- or off-ramp programs to keep these databases going. We recommend that the NIH create funding opportunities specifically for structural biology databases to support legacy

databases essential to the fields of structural biology, and the emerging field for structure prediction, are not shuttered.

Recommendation 2: Opportunities for NIH to partner to achieve these goals

To achieve the first goal set in the strategic plan, the NIH should partner with stakeholders in the scientific community, such as scientific societies, and organizations leading in FAIR data standards, such as the [Core Trust Seal](#). Scientific societies are in unique positions to relay important information directly to investigators during annual meetings and monthly programming. Partnering with societies, such as the ASBMB, to facilitate training resources through monthly newsletters and programming or collaborating with societies, such as the African Society for Bioinformatics and Computational Biology, to scale up current NIH programs, such as the [Omics Codeathon](#), would create multiple avenues to conduct outreach and disseminate [data-management and training resources](#).

Moreover, the NIH must take stance on acceptable global standards for repositories, for example by partnering with international organizations, such as the [Core Trust Seal](#), [FAIRsharing](#), [Crossref](#), and [Metadata 20/20](#). Not only will this show NIH as a leader in data science, but it will also give investigators clarity on approved data repositories. The ASBMB recommends that NIH develop trainings with these organizations as well as a seal of approval for investigators who complete the trainings.

Recommendation 3: Emerging research needs and opportunities that should be added to the plan

Artificial intelligence requires ongoing discussion. To ensure that standards are met for utilizing AI in research, the ASBMB recommends that the NIH establish a working group on emerging research needs for data science that reports quarterly on new AI standards and developments. The working group should include scientists, representatives of scientific societies and scientific journals.

Recommendation 4: Any other topic the respondent feels is relevant for NIH to consider in developing this strategic plan

The ASBMB recommends that the NIH explore negotiations with private partners to lower the cost to investigators for data storage and cloud computing through programs such as the [STRIDES program](#). The society would also like to note that sustainable funding mechanisms are needed to ensure the longevity of these programs and equitable access for all investigators.