

Biomedical Information Science and Technology Initiatives

Biomedical research is generating increasingly complex and voluminous amounts of information. For example, neurobiologists can now record electrical activity from hundreds to thousands of neurons simultaneously. There is a corresponding need for the hardware and software required to manipulate, store, and analyze data. Medical geneticists are running analyses from large numbers of subjects against information obtained from the Human Genome Project to map disease genes. This process now takes a considerable amount of time that could be significantly reduced with new, more powerful systems. Clinical trials, drug design, and the study of protein folding to determine function are examples of other areas that would be greatly enhanced by the development of new computational methods.

The National Institutes of Health (NIH), in recognition that computers are becoming an indispensable part of science, convened a working group to investigate the needs of NIH-supported investigators for computing resources, including hardware, software, networking, algorithms, and training. The panel was asked to consider both today's unmet needs and the growing requirements over the next five years. In response to the working group's recommendations, three initiatives have been announced recently by the NIH.

Planning Grants: National Programs of Excellence in Biomedical Computing (PRE-NPEBC)

This program announcement invites applications for P20 planning grants that lead to the establishment of National Programs of Excellence in Biomedical Computing. This program announcement has application receipt dates of March 27, July 27, and November 27 annually.

The following two announcements are designed to promote research and development in biomedical information science and technology that will support rapid progress in areas of scientific opportunity in biomedical research. This includes areas such as database design, graphical interfaces, querying approaches, data retrieval, data visualization, and manipulation, as well as computation research including the development of structural, functional, integrative, and analytical models and simulations.

Innovations in Biomedical Information Science and Technology: Phased Innovation Award (R21/R33)

This solicitation utilizes the phased innovation grant award mechanism, which includes a single submission and evaluation of both a feasibility/pilot phase (R21) and an expanded development phase (R33) as one application. This program announcement has application receipt dates of March 27, July 27, and November 27 annually.

Innovations in Biomedical Information Science and Technology: SBIR/STTR Initiative

This program is directed toward small businesses and runs in parallel with the Phased Innovation Award above. The announcement has application receipt dates of March 27, July 27, and November 27 annually.

For additional information, please contact **William Suk, e-mail: suk@niehs.nih.gov**.