

# News Release

Bolt Beranek and Newman Inc.



FOR IMMEDIATE RELEASE

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## NATIONAL DNA DATA BANK SITED AT BBN

CAMBRIDGE, MA, September 9, 1982--Bolt Beranek and Newman Inc. (BBN) has been awarded a prime contract by the National Institutes of Health (NIH) to establish and maintain a National Data Bank of DNA sequences and related genetic information. BBN will carry out the work with the support of the Los Alamos National Laboratory. The publicly available data bank will serve researchers scattered around the globe through a centralized computer system where all published DNA sequences will be stored.

Principal funding for the five-year \$3.2 million project is from the National Institute of General Medical Sciences of the NIH with co-sponsorship from the National Cancer Institute, National Institute of Allergy and Infectious Diseases, Division of Research Resources as well as other Federal agencies such as the National Science Foundation, the Department of Energy, and the Department of Defense.

BBN, a Cambridge, Mass.-based research, development, and consulting firm, is known internationally for pioneering work in computer-aided support of science and computer networks, including those serving thousands of scientists in the biomedical research community.

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The Los Alamos National Laboratory, which is operated by the University of California for the Department of Energy, will be responsible for gathering, annotating, and organizing the information. BBN will maintain the computerized data center and distribute the information to subscribing institutions and scientists via magnetic tape, an annual printed compendium, and limited online computer access. All new information in the field will be fed into the computerized system and stored for retrieval. The co-principal investigators of the data bank project are Dr. Howard Bilofsky of BBN and Dr. Walter Goad of Los Alamos. Dr. Goad has been head of a pilot collection effort at Los Alamos that has resulted in a collection containing about two-thirds of all published sequences.

BBN will maintain the data bank via the PROPHET computer system, which was developed and is maintained by BBN under NIH sponsorship. PROPHET includes an extensive set of specialized software and is used by hundreds of life scientists throughout the country for research in biology, chemistry, pharmacology and medicine, without requiring any understanding of computer technology. Dr. Bilofsky comments "Our goal is to provide a timely, accurate, and accessible major new resource for the scientific community."

DNA, short for deoxyribonucleic acid, is the key to all life. The importance of the data bank is underscored by the fact that directions for the complex chemistry that makes a living cell what it is are encoded in the sequence, or pattern, within DNA molecules. These large molecules princi-

pally contain four kinds of smaller molecules called bases, and the order in which these small molecules occur comprises the sequence of a specific DNA molecule.

Understanding the patterns in these sequences enables researchers to recognize molecular structural features within DNA that correspond to biological functions within a cell. Research in this field may ultimately help us to understand the processes of disease as well as inheritance. In explanation, Dr. Goad comments, "We know, for example, that certain viruses can induce tumors, and we can now identify the most likely sites at which the genes from such viruses are inserted into the molecule. This information can provide important clues to those trying to uncover the mechanisms of cancer."

Project scientists include Dr. Wayne Rindone at BBN, and Drs. Minoru Kanehisa, James W. Fickett, and Christian Burks of Los Alamos, all of whom have been extensively involved in the development of computer based tools for the life science community.