The BIONET^{tm} Resource

Description and Application Form

The BIONET^{tm} Resource is a central computer facility
serving the computational needs, for both research and communication,
of the molecular biology community. The Resource is funded by a five
year, cooperative agreement with the Biomedical Research Technology
Program, Division of Research Resources, National Institutes of Health.
The IntelliGenetics Division of IntelliCorp, Palo Alto, California,
will provide the computer facilities, core software, and support.
Responsibility for overseeing the Resource rests with a National
Advisory Committee (NAC), comprised of Drs. Joshua Lederberg (Chair,
Rockefeller), Saul Amarel (Rutgers), Fotis Kafatos (Harvard), Allan
Maxam (Harvard Medical School), Thomas Rindfleisch (Stanford), Richard
Roberts (Cold Spring Harbor), and Charles Yanofsky (Stanford).

Please read the following description of the BIONET Resource
carefully. By signing the attached application form you will be
agreeing to adhere to both the letter and the spirit of the guidelines
described here.

DESCRIPTION

BIONET Goals

The BIONET Resource has three goals:

1. To provide computational assistance in data analysis and
   problem solving for molecular biologists and researchers in
   related fields

2. To serve as a focus for development and sharing of new
   software tools

3. To promote collaboration and rapid sharing of information
   among a national community of scientists

Hardware, Software, and Resource Environment

The computer hardware of the Resource includes:

* An interactive, timesharing computer (Digital Equipment
  Corporation 2060) and associated peripheral equipment (tape
  drives, disks)

* Telecommunication access to the computer, locally via dial-in,
  remotely via the nationwide Telenet network

The computer software is divided into four categories:

* The Core Library, consisting of nine programs from IntelliGenetics (see attached description), for manipulating and analyzing nucleic acid and protein sequence data, plus additional programs selected by the NAC

* The Database Library, containing existing databases of nucleic acid and protein sequences, including GenBank^{tm}, the European Molecular Biology Laboratory (EMBL) database, the National Biomedical Research Foundation (NBRF) library of protein sequences, and VectorBank^{tm}

* The System and Programming Support Library, providing tools for program development, to include programming languages Fortran, C, Pascal, BASIC and MAINSAIL, and system utility programs (MLAB, for mathematical modeling, EMACS and TVEDIT for text editing, and SCRIBE for document preparation). Facilities for electronic mail and electronic bulletin boards will also be provided to foster rapid communication and collaboration. KERMIT will be available for file transfer to and from the Resource

* The Contributed Library, for programs contributed and being developed by the BIONET community. Mature versions of such programs will be moved to the Core Library at the discretion of the NAC

The Resource staff will provide this support to the BIONET community:

* User consultation by telephone and on-line communication

* Documentation of programs in the Core Library

* Regional training sessions in use of the software

* Assistance in moving programs into the Contributed and Core libraries

Service and Collaborative Activities

Class I Users:

Most members of the BIONET community will be Class I users. These users will have access to the programs in the Core, Database, and Contributed Libraries, and to the electronic mail and bulletin board facilities. They will use these resources to support their current research, and to contribute information to the Resource community.

Class II Users:

Class II users will contribute programs to or collaborate in developing new programs for the BIONET Resource and will have access to all four categories (above) of system resources to aid in this effort.

Criteria for Eligibility

The NAC has set these criteria for eligibility:

Class I--The BIONET Resource will admit, pro forma, researchers from academic and non-profit institutions in the U.S., who can demonstrate that they are supported by governmental, philanthropic, or unrestricted institutional funds and that their research can be assisted by the Resource facilities. The BIONET staff will consider on a case-by-case basis applications from investigators in foreign countries or from investigators funded from proprietary or restricted sources, and make recommendations to the NAC, which will make final decisions on all access to the Resource.

Class II--These users must meet the admission requirements for Class I access. In addition, they must indicate that they will participate in developing the Resource, by providing new programs to the BIONET community that help achieve the goals described above.

Conditions and Restrictions

The NAC will approve all access and will make the final judgment on applications that are questionable in nature, scope, or funding of research. Investigators outside of the U.S., who are accepted into the Resource, must pay for telecommunications to the BIONET computer. Access to BIONET will be approved through March 1, 1986, and will thereafter be subject to yearly renewal by reapplication.

Standard DEC-2060 facilities for file protection will be available to protect the integrity of preliminary data and programs. Ownership of data and software developed on the Resource will be subject to the guidelines of the Principal Investigator's institution and granting agency, to which all questions on legal issues should be directed. However, such data and software will be in the public domain in that the Resource will have a non-exclusive right to use of this information by other BIONET investigators.

All investigators granted BIONET access must provide brief annual summaries of research results. The summaries must be included in our annual report of Resource activities to the NIH. Investigators will have sufficient warning to prepare the summaries. All publications that involve use of the Resource must acknowledge the Resource by name and NIH grant number (1 U41 RRO1685-01). Investigators must send three (3) copies of these publications to the Resource Manager.

Access to BIONET for Class I and II users will be granted, on approval, to a Principal Investigator and designated members of his or her research group (see below). Each group will be allocated a fixed amount of disk storage space distributed among the PI and designated associates. We request that each PI limit access of his or her group to one login to BIONET at a time, i.e., two or more simultaneous logins are strongly discouraged during peak time (8:00 AM - 8:00 PM PST). Class II users will be granted larger amounts of disk space. BIONET will restrict the number of Class II users because of the anticipated heavy demands each will place on the facilities. Use of the Resource will be carefully monitored by the staff and the NAC.

There will be no initial charge for access to the BIONET computer. The NAC and NIH may institute a fee-for-service in the future. Researchers will have sufficient warning of fees to include requests for additional funds in their research grant proposals.

The BIONET Resource provides only a computer facility and associated services. It does not provide research equipment. The Resource has a small fund for fostering collaborations and will use this fund, when no other means are available, to support an effort that will advance the goals of the Resource.

A limited fund is available to support the production and distribution of documentation. Approved applicants will receive, free of charge, introductory material on access to BIONET, use of electronic mail and bulletin boards, and brief descriptions of the use of each of the programs in the Core Library. A complete program reference manual is available, at cost, from BIONET for $35. Please indicate on the application form the number of copies desired.

How to Apply

Principal Investigators should complete (please type) and sign the attached application form. One application form provides access for a PI and all of the personnel within his or her research group, listed under "Additional Users". Please address the completed application and written inquiries for further information to this address:

BIONET Applications
c/o BIONET Manager
IntelliGenetics, Inc.
124 University Avenue
Palo Alto, CA   94301

Description of IntelliGenetics Programs

in the Core Library

GENED   -   an interactive sequence editor, to simplify entry of nucleic
            acid and protein sequence data

SEQ   -   an aid to the storage, retrieval and analysis of nucleic acid
            sequences

PEP   -   an aid to the storage, retrieval and analysis of protein
            sequences

MAP   -   a program to generate restriction enzyme maps from enzymatic
            digests

GEL   -   used to manage large-scale DNA sequencing projects, including
            derivation of consensus sequences

SIZER   -   for calculation of molecular size of fragments from gel
            mobility data

QUEST   -   a general purpose program for searching for complex patterns
            in nucleic acid and protein sequences

IFIND   -   determines the alignment and similarity of pairs of sequences

CLONER -   a recombinant DNA simulation system that aids planning of
            experiments

APPLICATION FORM FOR CLASS I and II USERS

The BIONET[tm] Resource

Principal Investigator (full name and title):

Affiliation (Department, School and Institution):

Mailing Address:

Area code and phone number:

Applying for Class I or Class II Use? _____

Computers and terminals available (Specify only equipment that you would use to communicate with the Resource.):

Computer experience (List computers and computer languages; specify none, casual use(C), moderate experience (M), or highly skilled (S).):

Additional users (List all BIONET users under your direction. For experience, specify none (N), casual (C), moderate (M), or skilled (S). Highlight the primary contact person for your group if not yourself. The fixed disk space will be allocated among the names given, so please be judicious in selecting names):

Name	Title	Phone	Computer Experience

Application Form for Class I & II Users (continued)

Please attach the following items to the application form on as many pages as necessary. (Please type.)

1. Intended use of BIONET. Class I applicants should attach a short description labeled "Intended Use". "Intended Use" should include a Research Title of 80 characters or less, and a Research Abstract with a minimum of 3 lines and a maximum of 350 characters. Class II applicants, in addition, should include a description in detail of how their work will benefit the BIONET community.

2. Current grant support in area of intended use. Attach a sheet listing each federal grant by Principal Investigator, title, funding institution, grant number and duration of support and a brief (three to ten line) abstract of the research. If funding is from institutional or other unrestricted funds: (1) provide information on sources of funding sufficient for the NAC to determine if conditions for access have been met; and (2) provide the signature of an institutional official responsible for administering the grant.

3. Fill in the sheet labeled "APPENDIX TO INSTRUCTIONS - DRR SCIENTIFIC CLASSIFICATION." This information is required for reporting BIONET use to the NIH. Please select from "AXIS I" a maximum of four (4) codes that best describe your research area. Select from "AXIS II" a maximum of four (4) codes that further characterize your research. Circle or highlight the selected codes and return the sheet as part of your completed application.

4. BIONET will provide electronic bulletin boards on topics that you recommend. Please fill out and return the attached sheet on topics.

5. For Class II applicants, only. Current publications list in area of intended use (List only publications for the last two years.)

Documentation

Indicate the number of copies of BIONET reference manual desired _____ . Please enclose a check made payable to "BIONET Resource" for $35 a copy. The BIONET Reference Manual may only be purchased by advance payment via check.

As Principal Investigator of this grant to use the BIONET Resource, I agree, by signing this application, to adhere to all conditions and restrictions for use of the BIONET Resource, as described in the attached document, "The BIONET(tm) Resource, Description and Application Form", and such further regulations as may be issued from time to time by the NIH or the NAC.

The BIONET resource will not be used for any commercial purpose which is not specifically identified to and approved by the NAC. Any pertinent change in sponsorship, continuity of grant support, or use made of BIONET will be reported promptly to the BIONET Resource Manager.

I have also furnished a copy of this application to the responsible administrative officer of my institution, namely:

Name of official:

I also assume full responsibility for all users listed on this application form and will monitor their compliance to the conditions and restrictions for access to the BIONET Resource. I will inform the BIONET Administrator, (electronic mail address MARTIN), by electronic mail, immediately about any changes in this group of users, i.e., departure of an existing user or addition of new staff qualified to use the Resource. I will inform new users of the above mentioned conditions and restrictions.

Signature of Principal Investigator:

Date:

Mail the completed application to: BIONET Application
                                      c/o BIONET Resource Manager
                                      IntelliGenetics, Inc.
                                      124 University Avenue
                                      Palo Alto, CA 94301

Incomplete applications will be returned to you for completion. Please send all inquiries about this application to the above address. Include your phone number and application date in all correspondence.

APPENDIX TO INSTRUCTIONS

DRR SCIENTIFIC CLASSIFICATION

AXIS I	AXIS II
Code RESOURCE MATERIAL/RESEARCH AREA Nos. (Maximum 4 Codes)	Code RESEARCH AREAS Nos. (Maximum 4 Codes)

AXIS I	AXIS II

1 Animals
    a. Vertebrates, Mammal
    b. Vertebrates, Non-Mammal
    c. Invertebrates
2 Biological/Chemical Compounds
3 Biomaterials
4 Cells & Subcellular Material
5 Human Subjects
6 Membrane/Tissue/Isolated Organ
7 Microorganisms
    a. Bacteria
    b. Virus
    c. Parasites
    d. Other
8 Plants/Fungus
9 Technology/Technique Development
10 Other (SPECIFY)
12 Clinical Trials
    a. Multicenter b. Single Center
	30 Aging
	32 Anesthesiology
	34 Anthropology/Ethnography
	36 Behavioral Sci/Psychology/Social Sci
	38 Bioethics
	40 Communication Science
	42 Computer Science
	44 Congenital Defects or Malformations
	46 Degenerative Disorders
	48 Device, Protheses, Intra/Extracorpore:
	50 Drug Studies
	    a. Toxic c. Orphan Drugs
	    b. Other
	52 Engineering/Bioengineering
	54 Environmental Sciences
	    a. Toxic
	    b. Other
	56 Epidemiology
	58 Genetics, Including Metabolic Errors

ANATOMICAL SYSTEM/RESEARCH AREAS	60 Growth and Development 62 Health Care Applications 64 Immunology and Allergy

13 Cardiovascular System
14 Connective Tissue
15 Endocrine System
16 Gastrointestinal System
    a. Esophagus
    b. Gallbladder
    c. Intestine
    d. Liver
    e. Pancreas
17 Hematological System
18 Integumentary System
19 Lymphatic and Recticulo-
    Endothelial System
20 Muscular System
21 Nervous System
22 Oral/Dental
23 Reproductive System
24 Respiratory System
25 Sensory System
    a. Ear
    b. Eye
    c. Taste/Smell/Touch
26 Skeletal System
27 Urinary System
28 Other (SPECIFY)
	66 Infectious Diseases
	68 Information Science
	70 Instrument Development
	72 Mental Disorders/Psychiatry
	74 Metabolism and Transport
	    a. Carbohydrate
	    b. Electrolyte & Water Balance
	    c. Enzymes
	    d. Gases
	    e. Hormone
	    f. Lipid
	    g. Nucleic Acid
	    h. Protein & Amino Acid
	76 Neoplasms/Oncology
	    a. Benign
	    b. Malignant
	78 Nutrition
	80 Radiology/Radiation Nuclear Medicine
	    a. Ionizing (Xray, Nuclear Reactor)
	    b. Non-ionizing (Microwave, Radar)
	82 Rehabilitation
	84 Statistics/Mathematics
	86 Surgery
	88 Transplantation
	90 Trauma
	92 Other (SPECIFY)

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ELECTRONIC COMMUNITIES

All BIONET users will be required to participate in at least one User Community. These communities will be served by BIONET's Electronic Mail facility and Electronic Bulletin Boards, permitting members of the individual communities to easily correspond with one another, exchanging research news and other items of mutual scientific interest.

Please indicate which of the following communities you would like to participate in. Check AT LEAST ONE.

1. GENE EXPRESSION _____

2. PROTEIN ENGINEERING _____

3. DNA SEQUENCING _____

4. VECTOR CONSTRUCTION _____

5. METABOLIC REGULATION _____

6. DNA REPLICATION _____

7. DNA RECOMBINATION _____

8. DNA REPAIR _____

9. GENOMIC ORGANIZATION _____

10. IMMUNOLOGY _____

11. Other (Please Specify) _____

COMMUNITY LEADERS

Electronic Communities and Bulletin Boards will require organization and attention. Additionally, a very short summary of the activities of the community will be required describing the publications of individual community members, community research advances and contributions to the BIONET Resource as a whole.

If you are interested in being a Community Leader, please indicate so below:

I am interested in being a Community Leader for the _____ Electronic Community.