Table of Contents

Part I. Title Page 1
Part II. Description of Program Activities 2
II.A. Scientific Subprojects 3
II.A.1. Collaborative Research and Service 3
II.A.2. Core Research and Development 5
II.A.3. Training 7
II.B. Books, Papers, Abstracts 9
II.C. Resource Summary Table 11
Part III. Narrative Description 13
III.A. Summary of Research Progress 13
III.A.1. Service 14
III.A.1.a. Scientific Consulting: Class I, III and IV Support 14
III.A.1.b. Service 15
III.A.1.c. Scientific Case Studies Using BIONET 17
III.A.1.d. Comments from the Community 19
III.A.1.e. PC/BIONET Communications - Distribution of the Resource 21
III.A.1.f. System Help Utilities 22
III.A.2. Collaborative Research 22
III.A.2.a. DEC-2060 Software Contributors 23
III.A.2.b. PC-Based Software 26
III.A.2.c. Liaison with Other Resources 28
III.A.2.d. Bulletin Boards 29
III.A.3. Core Research 30
III.A.3.a. Multiple Sequence Alignment 31
III.A.3.b. BIONET Satellite Program 32
III.A.3.c. Hardware Text Searching Machines 32
III.A.4. BIONET Training Program 33
III.A.5. Resource Facilities 34
III.A.5.a. Computer and Telecommunication Networks 34
III.A.5.b. Summary Statistics on Machine Use 37
III.A.5.c. Computer Software - Core Library 41
III.A.5.d. Computer Software - System Library 49
III.A.5.e. Computer Software - Contributed Library 49
III.A.5.f. Database Library 50
III.B. Highlights 55
III.C. Administrative Changes 56
III.D. Resource Advisory Committee and Allocation of Resources 57
III.E. Dissemination of Information of Resource's Capabilities 58
III.E.1. Community Interactions and Awareness 58
III.E.2. Electronic Communications 59
III.E.2.a. Bulletin Boards 59
III.F. Suggestions and Comments 59
I. BIONET RESOURCES REAPPLICATION 60
II. ON-LINE HELP MENUS 64
III. XMULTAN ALIGNMENT 65
IV. PROGRAMS CONTAINED ON THE IBM AND MAC DIRECTORIES 66
V. DISPLAY BY THOMPSON'S MOLECULE PROGRAM 71

VI. MAILER FOR BIONET TRAINING SESSIONS 72
VII. TRAINING SCHEDULES 73
VIII. BIONET APPLICATION 82
IX. ADVERTISMENT FOR BIONET TRAINING SESSION 91
X. RENEWAL NEWSLETTER 92
XI. BULLETIN BOARD LEADER AD 100

List of Figures

Figure III-1: Pieslice Allocations of the DEC-2060 Computer 38
Figure III-2: Actual use of the DEC-2060 for the Month of October, 1986 39
Figure III-3: BIONET's Percentage Use of the DEC-2060, 12/85 - 11/86 40
Figure III-4: BIONET's Prime Time Use of the DEC-2060 12/85 - 11/86 43
Figure III-5: BIONET's Non-Prime Time Use of the DEC-2060, 12/85 - 11/86 45
Figure III-6: BIONET's Total Use of the DEC-2060, 12/85 - 11/86 47
Figure III-7: Total Telenet and UNINET Network Use, 12/85-11/86 48
Figure III-8: Size and Release Dates of the NIH GenBank Database 52
Figure III-9: Size and Release Dates of the EMBL DNA Sequence Database 53
Figure III-10: Size and Release Dates of the PIR Protein Database 54

List of Tables

Table II-1: Summary of the BIONET User Community 3
Table III-1: Summary of Monthly Rates of Inquiries 15
Table III-2: Summary of Monthly Rates of Questions for Programs and Databases. 16
Table III-3: BIONET Prime Time CPU Minutes 42
Table III-4: BIONET Prime Time Connect Hours 42
Table III-5: BIONET Non-Prime Time CPU Minutes 44
Table III-6: BIONET Non-Prime Time Connect Hours 44
Table III-7: BIONET Total CPU Minutes 46
Table III-8: BIONET Total Connect Hours 46