From an online exhibit of objects in the Vatican Library: Lucretius' De rerum natura, copied by Girolamo di Matteo de Tauris for Sixtus IV (Italy, 1483).
Story on page 15.
ACADEMIC COMPUTING AND NETWORKING AT NYU is edited and published by New York University's Academic Computing Facility (ACF). Its scope includes information about computing and networking activities at NYU's various schools, departments and administrative units.

Copies of Academic Computing and Networking at NYU are mailed to University faculty and staff and are also available from the ACF's Information Services Office (Room 306 Warren Weaver Hall). Students holding ACF individual computer accounts are included automatically in the newsletter's mailing list.

We welcome your comments and suggestions about the articles in this issue, and about articles for future issues of the newsletter. Contributions from sources within the University are invited for consideration by the Editor; please call 998-3036 for more information or send E-mail to hochberg@acfcluster.nyu.edu. Unless otherwise indicated, articles are authored by members of the ACF staff.

Below many of the bylines in this issue of the newsletter are electronic mail (E-mail) addresses. If you do not use E-mail but would like to, see the box in the Networks and Network Services section (page 17) of this newsletter.

This issue was prepared on Apple Macintosh Quadra, Macintosh IIci, and Macintosh SE computers, using Aldus PageMaker, Microsoft Word, Adobe Type Manager, and Adobe Photoshop. Fonts used in this issue: Gill Sans, and Adobe Garamond, along with Zapf Dingbats and Courier (for special effects).

Camera-ready copy for this issue was produced using a 600-dpi QMS 1700 printer.
Served by the Server

Animation and Interaction, in Class and Online

Over the last few years, I've become a strong proponent of the pedagogical use of computers—in the lecture hall, the classroom, and the study center. In my use of computers, the ACF's servers have played a major role as centralized devices for storing files and supplying them via the networks. For example, if a student sits down at a computer in the ACF lab in the Education Building, he or she can connect to the server in the lab, which can then supply the requested application programs. Similarly, at many locations around campus, a connection can be made to the server from a microcomputer with an Ethernet connection to NYU-NET. Students logged onto the server can use applications software stored on the server, can access files stored there by an instructor, and can read or print these files—but not move or modify them. Instructors with properly assigned privileges, on the other hand, can manipulate those same files.

There are several ways I have made use of the servers in teaching chemistry courses here at NYU. In the hopes of encouraging other instructors, I would like to describe some of what seem to me to be the more helpful pedagogical uses of the computer.

Classroom Presentations

I have regularly used a classroom setup that consists of a Macintosh and a PC, connected through the Ethernet to an appropriate server, along with a projection device that permits the students to view the screen of the selected computer. Software packages such as WordPerfect, Mathematica, MathCAD, MacroMind Director, HyperCard, SuperCard, and Aldus Persuasion are then right at my fingertips. Most of the materials that I use in my lectures employ such Macintosh-based programs as HyperCard. Previously prepared HyperCard stacks, animations, charts, and the like may be recalled from the server, from the hard
Students advance the "cards" by clicking on the arrows. Clicking on successive cards that duplicate some but not all of the figure can give the illusion of motion. Going back and forth at will can help a student to see similarities and differences.

For \( z=2\sigma \), the Error Function represents 95.44\% of the possible results, whereas for \( z=3\sigma \) the value goes up to 99.7\% and for \( z=4\sigma \) the value goes up to 99.999\%.

Conversely, any desired portion of the area under the gaussian curve can be matched to value of \( z \) by interpolation of the lower curve.

Summarizing: the probability of a result within \( z \sigma \) is

\[
\int_{-z\sigma}^{z\sigma} \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2\sigma^2}} \, dx = \text{Erf}(z)
\]

under the appropriate portion of the gaussian curve.

disk of the computer in use, or from a diskette or other external storage device.

This arrangement plays the same role as a conventional overhead projector showing transparencies or slides, but it has the additional advantage of permitting online demonstrations of the use of application programs and of having all of the computer facilities and databases available for dealing with discussions and questions that may arise.

Lecture Notes for Review

My lecture notes and any associated illustrations are routinely placed on the server for student access. (The ACF's network managers, Larry Mingione and Gary Chapman, can set up certain subdirectories with variable access, so that an instructor can place and edit material in selected files, while students can only read and print files from them.) Thus it is not necessary for me to write a poor copy of my notes onto the blackboard and for the students to make yet poorer copies in their notebooks, meanwhile missing much of my commentary in their anxiety to get as much as possible written down. Instead, the students know that they will have access to all of the board work plus occasional extended written commentary by the instructor. Their note-taking can be limited to a few (possibly salient) points.

HyperCard is a program that I find useful for this purpose, since it is very easy to use for the presentation of both text and graphics of all kinds (see page 12 of the January '93 issue of the newsletter for more information on HyperCard). It is readily edited, and is set up to permit students to browse through stacks without being able to make changes. For attractive, full-color presentations, Aldus Persuasion is particularly easy to use, although it is much less flexible than HyperCard if programmed effects, computations, or graphs are required.

Interactive Teaching Modules

One of the most significant pedagogical advantages of servers is the possibility of mounting independent, interactive modules for student use. Direct, live interaction with the teacher is essential in university education, as is the extensive use of books, and (at least in the sciences) of problems and projects to be tackled individually. Nevertheless, there are some types of instruction that benefit greatly from the use of computer technology.

For example, the opportunity to manipulate conditions and to observe the results,
particularly where there is an interaction between factors, can give the student a feel for a system in a way that words do not do as well. Simultaneous events, or alternative representations simultaneously viewed, present another example. Connections that can be made laboriously in a library by going back and forth between various sources can be set up by the teacher at a level of sophistication and complexity appropriate for the class at hand. Extra byways can be provided for the stronger students and labeled as optional for the weaker students.

Students appreciate the opportunity to go through the material at their own pace. In those situations where a sort of gaming format is appropriate, they have responded enthusiastically. Finally, some students find stimulation even in the small degree of interaction required merely to signal readiness for the next step in a study module.

**Homework**

Students can go to the server to get their homework assignments, and they can return the completed assignments—text, calculations, or graphs—to the instructor on the server. Furthermore, they may address special complaints and problems to the instructor via the network by writing into specially authorized files; replies can be returned in the same way. It’s often useful to maintain a file of all the questions and answers from an entire class, which any member of the class can peruse at leisure. This file is also a valuable resource for me when I plan the details of the course for the next time around.

**Examinations**

In situations where at least partial use of the computer is relevant, midterm and final exams can be given on the computer by placing the exam in a file on the server. The students may then supply their answers either on a protected file on the server or by printing (or writing) them out and giving the answers to the instructor on paper. Undesired collaboration can be discouraged by holding the examination in a room (or portion thereof) reserved for that purpose with the cooperation of the ACF staff, and monitored in the usual way.

Instructors interested in employing the ACF servers in a manner similar to that described by Prof. Sundheim should contact the ACF HelpLine (998-3333).
A New ACF Service

Equipment for Computer-Assisted Lectures at Study Center

Instructors holding class in rooms in NYU's Study Center at 25 West Fourth Street will now be able to use microcomputers to support their lectures. As part of its program of support for computer-based instruction at NYU, the ACF has purchased both an IBM PC and a Macintosh computer for use at the Study Center.

Each of these computers is installed on a rolling cart, which can be wheeled into any of the classrooms in the Study Center. The setup includes video-display equipment—a LCD flat-panel display and an overhead projector, which allow the instructor to project the contents of the computer screen onto the wall-mounted screen in each classroom—and a CD-ROM drive and videodisk player. When not in use, the systems are kept in an ACF office in the Study Center. Faculty members may use this office to set up and test classroom presentations when the computers are not being used in classes.

The computers have high-speed Ethernet network cards and can be connected to NYU-NET simply by plugging the appropriate connector into the network wall jack in the classroom. (When the Study Center was being constructed, the ACF installed an NYU-NET "tap" in each of the classrooms.) Instructors may use the network connection to access computing facilities elsewhere on campus and around the world. Instructors may prepare computer-based instructional material for classes using network-connected computers located in their departments or offices, or in the ACF's computer labs, and then access the material remotely using our equipment in a Study Center classroom.

Making Use of the Equipment

If you are an instructor with classes scheduled for the Study Center and would like to avail yourself of this service during the current semester, please contact the ACF HelpLine (998-3333) to reserve equipment for a specific time period and location. The HelpLine will also be able to provide details on the equipment configuration, its network connectivity, and software installed on each system. An ACF staff member will deliver the cart to the room just before the beginning of class, and will remove it at the end of the period.

For instructors whose classes do not meet regularly at the Study Center, there may also be a limited number of Study Center classrooms available for use on an ad hoc basis this semester. Please contact the Room Assignments Office (998-1003) to determine the availability of such space before calling the ACF to reserve equipment.

Instructors who would like to use this service on a frequent basis in Fall '93 and subsequent semesters should file a special request with Room Assignments to obtain class space in the Study Center.

Additional Help and Further Information

ACF staff members are available to instructors who wish to discuss the use of the equipment or who need help or practice in preparing for class. The ACF Microcomputer Laboratory (Room 312, Warren Weaver Hall) can provide such assistance. The ACF HelpLine may also be consulted for guidance.

Use of the equipment at any specific time is of course subject to its availability. Although only two computer systems, one of each type, will be available initially, the ACF is likely to be able to acquire additional equipment if demand warrants it.
More Colloquia Are Planned for Spring '93

As we go to press, two sessions remain in NYU’s Spring ‘93 series of colloquia on uses of computing in university learning and research. The colloquia are open to all NYU faculty, staff, and students. Both sessions will take place on Fridays at 2:00 pm in Room 109 Warren Weaver Hall.

- Computer-assisted language learning: Using HyperCard to teach Arabic (March 26). Dilworth Parkinson (Department of Asian and Near Eastern Studies, Brigham Young University) will discuss computer-assisted language learning — particularly as it relates to the teaching of Arabic — and will present the HyperCard-based courseware he has created to help teach beginning students of Arabic. Professor Parkinson’s courseware is used at several universities, including NYU (see the January 1993 issue of this newsletter). He will also address issues of concern to the language-teaching profession with regard to the appropriate use of technology.

Professor Parkinson is Executive Director of the American Association of Teachers of Arabic. His publications include the book Constructing the Social Context of Communication: Terms of Address in Egyptian Arabic.

- Geographic Information Systems (April 23). Michael Goodchild (Geography, University of California at Santa Barbara) will speak on a number of recent research projects of the National Center for Geographic Information and Analysis (NCGIA). Professor Goodchild is Director of the NCGIA and has also developed a core curriculum that covers all aspects of GIS, particularly for geographers.

More complete announcements of these events will appear in NYU Events, the University’s biweekly calendar, and flyers will be mailed to all NYU faculty. To ensure that you receive a flyer (by University mail or E-mail, as you prefer), ask to be added to the ACF’s mailing lists: send E-mail to document@acfduster.nyu.edu or call 998-3333.

The series is sponsored by the ACF and the Faculty of Arts and Science, with support from Apple Computer, Inc. Individual colloquia are co-sponsored by additional University departments, depending on topic.

Networked Virtual Reality: Sharing Cyberspace

At a well-attended February NYU colloquium, Carl Eugene Loeffler discussed networked virtual reality and potential applications in education and industry.

Virtual reality involves the use of computer-mediated imagery, sounds, and other sensory data to immerse participants — often wearing specialized headgear, sensory gloves, or other equipment — in a synthetic environment. At present, virtual environments most commonly are built for use by a single participant and involve the use of powerful computers and sophisticated programs. Mr. Loeffler’s group at the Studio for Creative Inquiry at Carnegie Mellon University (CMU) adds networking to the mix, providing what they see as the most important feature: the ability for widely separated people to interact within a “consensual reality.”

Mr. Loeffler is an artist who has been working for a number of years in projects that combine contemporary art and communications technologies. He noted that the Studio was one of the first virtual-reality labs to be established within a fine-arts department.

The presentation included a videotape of a shared session in the Networked Virtual Art Museum, a Studio project that received an EDUCOM award in 1992 for networked information in support of teaching and learning. Groups of participants in Munich and at the CMU Studio simultaneously explored the “museum” at will. Each team adopted a persona, and could see the other personas as they moved about the museum.

Interestingly, the technical demands for the project are relatively modest; Mr. Loeffler cited a figure of (continued on page 7)
Mention foreign-language learning, and most of us envision drills on verb forms in the classroom, and sessions with headphones and microphones in the language lab. Recently, there has been a trend toward intensive “total-immersion” programs for faster learning. Now, advanced information technologies can be used to facilitate foreign-language acquisition.

From the Athena Language Learning Project at MIT, the Academic Computing Facility has acquired a prerelease copy of the commercial edition of an interactive video program for teaching and learning French. The copy is on loan to the ACF until March 31; the ACF is looking into extending the loan period for an additional few weeks. Commercial release is due later this year.

Filmed in Paris, *A la rencontre de Philippe* is a videodisk-based interactive program for use on Macintosh computers to improve language comprehension for students. It is now installed on a Macintosh Quadra 950 in the ACF Faculty Microcomputer Lab, Room 312, Warren Weaver Hall. If you would like to view the program, please send me E-mail at the address above or phone me at 998-3449 for more information.

Within the program, students participate in an endeavor to locate a new apartment for the principal character, Philippe, who needs new living quarters after a dispute with his roommate, Elisabeth. A variety of media — sound, video, still images, graphics, and text — immerse the student in a navigation of the social and geographical contexts of Paris to locate an apartment for Philippe.

The program is viewed as a series of windows. One holds a map of Paris and another a *carnet* or notebook, in which the student can record addresses and notes. Other windows display the video in preview or replay mode. Auxiliary aids such as subtitles, transcriptions of spoken dialogue, and a glossary are available for those who want to invoke them. Other interesting interactive features give the student access to the classified ads of *Le Figaro* and the use of Philippe’s telephone-answering machine.

Using the ads and answering machine, the student compiles a list of real-estate agents and apartments, and then can travel across Paris to these places through use of the map. After simply selecting an *arrondissement* of Paris and clicking the computer’s mouse cursor on a street name from a short list, the viewer is suddenly at the selected spot, and the action proceeds from there.

Instructors can tailor the program to make it more challenging for the students. A teacher mode provides access to configuration switches that can disengage various student aids. *A la rencontre de Philippe* can be used in abbreviated ways for classroom demonstrations, and to bring together examples from all over the videodisk to provide the basis for discussions on linguistic and cultural points.

Interested readers may recall that an earlier version of this software was demonstrated at an NYU colloquium in Fall 1991 (see the January 1992 issue of this newsletter).

**Computers and the Humanities**

What are the uses of the computer in the humanities? Since their invention, computers have seemed perfectly normal tools in the sciences, but in the humanities, the uses are less obvious. NEACH, the Northeast regional affiliate of the Association for Computers and the Humanities (ACH), is intent on exploring the present and potential uses of computing and networking tools.

The group meets monthly in the IBM Building in New York City for presentations and discussions. Meetings are free and open to the public. For more information about NEACH and its meetings, please contact Professor Heyward Ehrlich (ehrlich@andromeda.rutgers.edu).
Computer Use in Courses at the Wagner School

Willard Hansen

Willard Hansen is Professor of Urban Planning at the Robert F. Wagner Graduate School of Public Service.

With a present enrollment of about eight hundred students, the Wagner Graduate School of Public Service offers academic programs in public administration, urban planning, and health-care policy and management. Computing — using microcomputers run at ACF computer labs — has become an important element of the school's instructional curricula.

**Computer Proficiency**

Basic computing proficiency has become a vital professional skill for managers, policy analysts, and planners. It is currently understood by the school to mean a working knowledge of

- hardware and operating software for DOS-based computers;
- three widely used types of software applications — database management (dBASE IV), statistics (SPSS/PC+), and spreadsheet (Lotus 1-2-3); and
- concepts and methods of descriptive statistics.

Every professional-degree candidate must satisfy the school's basic requirement in computing proficiency. This is necessary for graduation in addition to being a formal prerequisite for all coursework involving computer use.

The basic proficiency requirement is normally satisfied by successful completion of the school's introductory course on computer applications, which may be taken on a credit or non-credit basis. Those students who have already had substantial experience with microcomputers, or believe that they are able to master the subject matter by themselves, may meet this requirement by passing a special examination. At the same time, all Wagner students are expected to become proficient in wordprocessing on their own.

**Instructional Computing**

Up to a dozen required and elective courses at the school now involve instructional computing. In addition to the three basic packages covered by the proficiency requirement, these courses are using specialized software for operations research, for geographic information management, and for computer-aided designs.

**Networked Virtual Reality (continued from page 5)**

$30,000 to equip a full VR studio, using nothing more powerful than IBM-style computers with Intel 80486 processors. Much of the software has been developed at CMU, based on software from Sense-8 Systems in Sausalito, California. The networking demands can also be modest: the data needed to create the virtual environment can be stored and duplicated at each participating site, so that only information about movement within the environment need be transmitted in real time.

Mr. Loeffler feels that virtual-reality applications should allow people to create experiences that are otherwise inaccessible. A project with the Smithsonian Institution to bring virtual reality to Washington-area public schools will include a networked virtual-music studio and a virtual room where children can create potentially limitless objects and environments. Other projects of Mr. Loeffler and his colleagues include a simulated environment for automobile design.

Mr. Loeffler's presentation was one in a series of colloquia on uses of computing in university learning and research. The series is sponsored by the Academic Computing Facility and the Faculty of Arts and Science, with support from Apple Computer, Inc. Mr. Loeffler's talk was co-sponsored, in addition, by the FAS Departments of Fine Arts and Computer Science, the Interactive Telecommunications Programs (TSOA), and the Music Business and Technology Program (School of Education).

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with Estelle Hochberg
Update on the ITP Program on Copyright and the New Technologies

Donna Demac

Donna A. Demac, Esq., is with TSOA's Interactive Telecommunications Program. She is Director of its Program on Copyright and the New Technologies.

Computers are posing basic challenges to our notions of creativity and intellectual property. When words, sounds, and images can easily be manipulated and made into copies that are virtually indistinguishable from the original, is copyright protection viable? If so, does this contradict many people's longing for a wider sharing of the software and new works created using the new technologies?

These and related questions are the central concerns of the Program on Copyright and the New Technologies, established last year within the Interactive Telecommunications Program (TSOA). This program has encouraged research into creators' rights and has held two symposia. The first was on the 1992 law covering DAT (digital audiotape) technology; the second focused on computer manipulation of news photographs. (See the September 1992 newsletter and the box below.)

The ITP Copyright Program is presently assisting students from several departments with research on cutting-edge issues, such as moral rights (i.e., the rights to protect the artistic integrity of the work) related to multimedia production, and copyright for works based, in part, on the use of scanning and sampling technologies. In addition, the Copyright Program has been contacted by an increasing number of students and faculty about procedures for obtaining copyright protection.

For further information, please call the Copyright Program's office at 998-1880.

Readings on the Reproduction of Photographs in the Computer Age

Articles


Books


Reports

**Interactive Medieval History**

Work done for a course taught by Rachel Leventhal at the Tisch School of the Arts, *Interactive Projects from Script to Screen*, led to this Macintosh-based exploration of a topic in medieval architecture and history. Gloucester Cathedral’s features and history are revealed through a central interactive narration that casts the user as the newly elected abbot at Gloucester in 1327.

King Edward II, captured by Roger de Mortimer, has been murdered in prison; under ban by the rebel’s allies, his body has been refused burial throughout England. The user-abbot must decide whether to accept the body for burial at Gloucester. Before deciding, the user can explore the town and church, and find out about the people involved: clicking on parts of the church produces enlarged architectural drawings; clicking on pictures of the characters brings illustrated biographical narrations, and so on.

The program was created by Neil McGinness, a graduate student in the Interactive Telecommunications Program at TSOA, using MacroMind Director 3.1 at the ACF’s Arts and Media Studio.

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**Software at the ACF’s Arts and Media Studio**

The software listed below is installed in the ACF’s Arts and Media Studio in the Education Building at 35 West Fourth Street, which is equipped with powerful desktop computers and multimedia peripherals. (For the latest information about equipment, hours, and access policies, please call the ACF HelpLine, 998-3333.) Similar hardware and software are available for use by faculty in the Faculty Microcomputer Lab; call 998-3044 for further information.

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**Interaction**

- Aldus Persuasion 2.1
- HyperCard 2.1
- MacroMind Director 3.1
- OpCode MIDisplay
- Voyager Videostack Toolkit 2.2
- Voyager CD-Audio Toolkit 1.2

**Interactive Tutorials**

- The Book of MIDI
- Macintosh Basics
- Macintosh Electronic Reference
NYU students at the Tisch School of the Arts are producing 3-D computer images and animations only weeks after their first introduction to the medium. In Introduction to 3-D Computer Animation, a course in the Undergraduate Department of Film and Television taught by Peter Bardazzi, simple shapes and colors are manipulated to produce complex images moving through space.

The 3-D animation program Alias Studio presents the user with a group of geometrical primitives (sphere, cube, cone, etc.). These can be manipulated, reshaped, combined, colored, shaded, rotated, and moved to produce virtually any picture. They can be viewed from any angle and under a variety of lighting conditions. Alias Studio also has tools to animate images, moving them through visual space and changing the highlights and shadings consistent with the motion, and to record the animated results, which can
then be output onto laser disk or videotape.

"There are many artists today, especially within the film school at TSOA, who rely on technology for special effects, digital editing, and the like," Mr. Bardazzi notes. "Commercial applications of computer animation are proliferating. Even Disney, long the bastion of traditional animation, has built a huge new computer-animation facility. Students recognize this as the wave of the future, and they're tremendously interested." He hopes to be able to offer an advanced course in computer animation in the near future.

The students produce their animations on Silicon Graphics Indigo workstations in the ACF's Videographics Studio in Warren Weaver Hall; the color still images (here reproduced in black and white) were printed on the Visualization Lab's Tektronix Phaser PXi 300-dpi color printer.

— David Frederickson
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Here Adam Kortepeter has produced a fleet of four spaceships that travel to an unnamed planet, disgorge a smaller cruising rocket to explore the planet, and confront an alien rocket, all in the best tradition of interstellar heroics.

The two bowls of fruit shown here were produced by Bill Almeida (left) and Adam Kortepeter (below) as the first class assignment; once the individual elements were created, they could be arranged at will, much as real pieces of fruit might be.
Software Available through the ACF

by John Quinan
quinan@accluster.nyu.edu

Members of the NYU community can obtain various software programs through the ACF. Several programs are available under site-license agreements arranged by the ACF, while others are public domain software that is free of charge.

All of the software mentioned below can be obtained from the ACF Faculty Microcomputer Laboratory, and diskettes are often required for the process. Please call the Micro Lab (998-3044) for price information where applicable and for other details.

Site-Licensed Software

The following site-licensed software is available to qualified members of the NYU community either free of charge or at substantial discount, with the understanding that the software will not be redistributed and that use of the software will cease upon departure of the user from the NYU community.

- XferIt, version 1.4, is a program for Apple Macintoshes connected directly to NYU-NET; it permits high-speed file transfer between machines that support FTP and TCP/IP networking.
- MacTCP, version 1.1.1, is needed to run XferIt.
- Mathematica, version 2.1, a system for mathematical and other applications, is available at an educational discount for use on NYU equipment.

In addition, the following statistical software packages are available at substantial discount, under the site-license agreement, to graduate students and full-time faculty and staff.

- SYSTAT, version 5.2.1 (for the Mac and PC).
- SPSS/PC+, version 4.01 (for the PC).
- SAS, version 6.04 (for the PC).

Public-Domain Software

The following programs can be obtained free of charge through the ACF.

- Eudora, version 1.3b102. This E-mail program runs on Macintosh computers and provides an easy-to-use, easily organized Mac interface that is simple to use.
- MS Kermit, version 3.12 (for the PC), and C-Kermit, version 0.99 (for the Mac), are terminal-emulator file-transfer applications.
- Disinfectant, version 3.0, and GateKeeper, version 1.2.7: anti-viral programs for the Mac.
- F-Prot, version 2.07 is an anti-viral program for the PC.
The personal computer has transformed academic computing. An activity that was once restricted to centralized mainframe computers has, over the last decade, been distributed among locations ranging from traditional workplaces such as labs, offices, and libraries to “part-time workplaces” such as residence-hall rooms and homes. And now portable notebook computers are spreading computer and network use even farther afield. In this widely distributed computing world, a need has emerged for reliable support that can be accessed at a distance by computer users of varying interests and applications.

Inaugurated two months ago by the ACF, HelpLine has rapidly taken its place among the user-support services offered to the NYU community. In its initial phase, HelpLine brings together several ACF phone-line services that had provided solutions to questions and problem reports concerning NYU-NET, registration for ACF tutorials and seminars, and information on ACF’s computer labs and shared-computer systems.

We hope that furnishing one point of contact for callers, a single place to get help, will accomplish several aims:

- First and most important, to resolve the problems of ACF clients quickly.
- Second, to keep records that will help us to identify training and documentation needs, and to recognize emerging usage trends and problem areas.
- Third, to develop a database of solutions to frequently asked questions.

In the months ahead, the HelpLine staff will investigate automation tools that promise to heighten the service’s efficacy — in particular, software that will log calls and electronic-mail reports of problems, and integrate those functions with multi-user access to a database of solutions. Also under consideration is an automated information menu for HelpLine callers. This feature would be available during nonbusiness hours or when the staff is unable to answer the telephone. An update on these tools will appear in the May 1993 newsletter.

During HelpLine business hours, 9:00 am to 6:00 pm, Monday through Friday, callers are welcome to inquire on any topic relevant to academic computing at NYU, and in particular to the services of the Academic Computing Facility. At other times, calls are received by voice mail, a message-taking feature of NYU’s telephone system, for staff replies during the next business day. The HelpLine number is 998-3333. We welcome your calls and comments.

Requesting Help by E-Mail

Feel free to report all manner of problems and to ask any questions pertaining to computer or information resources at NYU by sending E-mail on any ACF system to comment. Users on systems outside the University can use the address comment@nyu.edu.

Holders of ACF Electronic Mail and Information Services accounts can also reach comment by selecting Option 7 on the main menu and following the on-screen instructions.

ACF staff members monitor messages to comment continually. A reply is typically sent within 24 hours, and often much sooner.

Please remember to include your name (and phone number, when appropriate — for example, if you are reporting a problem that would not permit an ACF staff member to reach you by E-mail.)
Searching Catalogs without Transliteration

Arabic Script Now Available in RLIN

By Rhonda Zangwill
zangwill@elmer1.bobst.nyu.edu

Rhonda Zangwill
is the public affairs manager for
Bobst Library

Thanks to software developed by the Research Libraries Group (RLG), a number of libraries with major Middle Eastern collections are cataloging materials directly in Arabic script on RLIN, RLG’s national bibliographic utility. Among the institutions with this computerized capability are the Library of Congress, the New York Public Library, Princeton, Michigan, and, beginning last month, NYU — all members of the RLG, a partnership of more than a hundred major research universities, museums, special collections, and archives around the world.

Scholars and librarians have long recognized the inherent problems in romanizing non-Roman languages such as Arabic. Transliteration methods vary from country to country, and even in the United States, where most academic libraries adhere to a single transliteration standard, there remain gray areas and interpretive exceptions.

According to Meryle Gaston, the Bobst Library’s Near East Cataloger and Selector, this capability “is really a wonderful advance. So many things can affect transliteration — grammar, colloquial usage, individual pronunciation, or just plain ignorance of the language — that there are plenty of opportunities for mistakes in a bibliographic record.”

Individual scholars often introduce their own variations in transliteration, thus increasing the margin of error. Consequently, searching a catalog for transliterated Arabic-language materials is often very time-consuming, and can be somewhat frustrating. Being able to catalog and search directly in Arabic script eliminates this problem entirely and will, ultimately, give researchers much more accurate and timely access to these materials. For more information call Meryle Gaston at 998-2458.

No Password Needed for RLIN

Searching RLIN, the Research Libraries Information Network, has never been more convenient. While it has long been accessible through the ACF’s electronic-mail system, an RLIN account and a password assigned by the Library were required to use RLIN. This is no longer the case. All that is needed now is an ACF E-mail and Information Services account. To get to RLIN, simply choose option 5, Software, from the main Information Services menu, then option 2, Communications-Related Utilities, and finally 3, RLIN. (For more on the ACF E-mail and IS account, see p. 18.)

RLIN, the bibliographic utility of the Research Libraries Group, contains nearly 50 million records from more than 100 institutions, including scores of major research universities, museums, etc. For more information about RLIN, contact Bobst Reference at 998-2500.

More Dialog Workshops

There’s still time to take a Dialog workshop. Bobst Library’s Dialog Classmate Program provides access to 112 databases in many subjects. Upon completion of a basic workshop, participants are given a free password for one hour of searching. Additional one-hour passwords are available at a modest cost.

• Basic Workshops (all topics covered; held in Bobst Microcomputer Center, B-Level): Tue. March 30, 6–8pm; Fri. April 9, 10am–noon; and Mon. April 19, 6–8pm.

• Refresher Workshops (held in Bobst Avery Fisher Center, 2nd floor):

  General Sessions to Improve Searching Skills: Mon. March 22, 6–7pm; and Wed. May 5, 6–7pm.

  Special Workshop on Full-Text Newspaper & Magazine Searching: Mon. April 5, 6–7pm.
Humanities scholars at NYU will be interested in an exhibit that the Library of Congress has put online and made network-accessible—essays, pictures, and all. Rome Reborn: The Vatican Library and Renaissance Culture presents some 200 of the Vatican Library's most precious manuscripts, books, and maps—many of which played key roles in the humanist recovery of the classical heritage of Greece and Rome. The exhibition presents the story of the Vatican Library as the intellectual driving force behind Rome's emergence as a political and scholarly superpower during the Renaissance. The exhibit will be on display in the Jefferson Building of the Library of Congress through April 30, 1993. The online exhibit, though, will be accessible indefinitely over the Internet for personal and scholarly work; the Library of Congress does not permit commercial use of the text and images.

The exhibition is the first in a series the Library of Congress plans to present about great libraries of the world. As James H. Billington, the Librarian of Congress, notes in the preface to the exhibit's catalog, "It is especially fitting that this series begin with the Biblioteca Apostolica Vaticana. The Vatican Library is the prototypical modern research library of western culture" and took a central role in the developing Renaissance. From the library's earliest days under Pope Nicholas V in the 1450s, its acquisitions policy focused on the liberal arts and sciences. "Consequently, the library has special strengths in unexpected areas, such as the history of the exact sciences, East Asian languages and literatures, and music history."

The online exhibit includes all of the objects from the exhibit at the Library of Congress, as well as additional objects that were brought as possible alternates or that were omitted in the planning process.

Accessing the Exhibit
The Library of Congress's online Vatican Library exhibit is accessible over the Internet via anonymous ftp. Connect to
A Few Guides to the Internet

The New User's Guide to Useful and Unique Resources on the Internet, Version 2.3, is available as a printed text from NYSERNet. It contains user-friendly information about fifty internetworking resources and services, most of which can be accessed using Telnet or FTP protocols.

The price is $25.00 for the public, and $18.00 for NYSERNet affiliates (including members of the NYU community) and interest-group members. Mail check, purchase order, or money order (payable to NYSERNet, Inc.) to NYSERNet, 200 Elwood Davis Rd., Suite 103, Liverpool, New York 13088-6147.

NYSERNet also has an ASCII text version available for anonymous ftp to nysernet.org. The file, Guide.V.2.2.txt, is in the directory /pub/guides.

Surfing the INTERNET: An Introduction is now available from the ACF Documentation Office (Room 306, Warren Weaver Hall; 998-3036). It is a general introduction to Internet communications and includes information about how librarians and libraries can benefit from net connectivity.

There is also an ASCII text version available via anonymous ftp to nysernet.org. The file, surfing.2.0.2.txt, can be found in the directory /pub/resources/guides.

The ACF Documentation Office will continue to offer copies of Zen and the Art of the Internet and Internet-Accessible Library Catalogs and Databases. In addition, copies of Krol's excellent Internet guide are available at the NYU Computer Store (see page 29).
since mid-February, the Academic Computing Facility has offered direct connections to NYU-NET, New York University’s campus network, to students living in the Goddard Hall and Third Avenue North residences. Students who choose to link their desktop computers to the network in this manner will have high-speed access to a variety of campus information and computing resources, as well as the resources available on the worldwide Internet.

These high-speed connections will be offered free of charge through the end of the current 1992–93 academic year. Most Macintosh and IBM-type microcomputers with hard disk drives and Ethernet boards should meet the configuration requirements for connecting to NYU-NET. Some specific guidelines should be followed, however; to avoid purchasing errors, the ACF recommends that potential users attend one of its information sessions before buying any new equipment.

Direct connection to NYU-NET will provide high-speed access to a range of basic services that are currently available through slower modem connection to the network provided by the Academic Computing Facility. Among these services are:

- electronic mail — sending and receiving E-mail messages, subscribing to discussion lists and electronic conferences
- access to Internet, the international network of computer networks
- mainframe computer access and file-transfer software, using Kermit, Telnet, FTP, and TN3270
- access to New York University information services — online archives and library catalogs, such as BobCat and MEDCat.

Students who would like to obtain one of these direct NYU-NET connections, or to find out more about them, should attend one of the ACF’s information and sign-up sessions. For the rest of the spring semester, these will be held twice a week, on Mondays at 3:00 pm and Wednesdays at 10:30 am, in Warren Weaver Hall, Room 313. Members of the technical staff from ACF and a representative from the NYU Computer Store will demonstrate the various services available through connection to NYU-NET, and will answer questions and make recommendations about computer hardware. For further information call the ACF HelpLine at 998-3333.

Obtaining an E-Mail Account
The ACF’s Electronic Mail and Information Services Accounts are available free of charge to NYU faculty, staff, and students. Electronic mail (E-mail) is available automatically to those with accounts on ACF mainframes and minicomputers.

NYU students, faculty, and staff members may apply for E-mail Accounts at any of the ACF microcomputer labs (see inside back cover for locations and hours). You will need to complete a brief application form and to show your current valid NYU ID. (Note that I.D. cards stamped “General” — typically issued to non-degree, non-diploma students — are not included in this category, unless also stamped “Faculty”.)

Faculty and staff members, if they prefer, may request E-mail Accounts by letter. Please use departmental letterhead with the department’s address and phone number, and include your name, title, and campus address and campus phone number.

Please send your request to the Academic Computing Facility Accounts Office, Room 305, Warren Weaver Hall. For additional information on ACF computer accounts, please contact the ACF Accounts Office at 998-3035. Or see page 18 for an article on these accounts.
Beyond Electronic Mail

Electron Transfer and Other New Features of the ACF's New E-Mail Accounts

by Estelle Hochberg

Electronic communication is rapidly becoming an important focus of computer use at NYU and elsewhere. Use of electronic mail has burgeoned and has served to heighten interest in network resources and their potential for enriching university research and instruction. A wealth of information is already available over the Internet, the international network of networks connecting well over a million computers. Scholars worldwide are using the Internet to exchange news and information, to participate in electronic conferences and discussion lists, and to access library catalogs and bibliographic databases, as well as archives of journals, texts, images, and other information.

Since the opening of the spring semester, the ACF has been providing an enhanced version of its E-mail accounts. Like the earlier version, called “NYU mail,” the new version operates on the ACF cluster of VMS computers. In addition to E-mail, however, the ACF’s new Electronic Mail and Information Services Accounts offer an array of mail-and network-related tools and services — previously available only to holders of “full service” accounts on the ACF’s VMS and UNIX computers — now organized in an easier-to-use system of menus (see the January 1993 newsletter for an overview).

Among the particularly popular additions to these accounts are their enhanced facilities for file transfer and access to network resources. This article provides a brief tour of just a few of these.

File Transfer and Communications Utilities

The new accounts offer a package of tools that can be used as adjuncts to basic E-mail use — to upload files from one’s microcomputer for inclusion in E-mail messages, for

The Communications Utilities menu. Here, we are about to start an anonymous FTP session on a Library of Congress server (see page 15). Its Internet “name” is seq1.loc.gov. We will type anonymous when asked for our username, and give our E-mail address as our password.

**Communication utilities**

1. Telnet   Login to another system via Telnet
2. TelnetT Login to another system; keep a session transcript
3. RLIN Use RLIN (Personal Account not required)
4. FTP Transfer files via FTP (File Transfer Protocol)
5. Kermit Transfer files via Kermit
6. Info Access NYU’s production Campus-Wide Information System
7. Bboards Access local bulletin boards and selected lists
8. Network Access all Usenet newsgroups, CHIS, WAIS, and resource servers
9. Chat Interactive chat utilities and network finger
10. Exit Return to previous menu

Enter your choice: 4 (Type your choice followed by <Enter>)

Getting ready to connect to a node on the Internet and exchange files. We will need to know its full host name, and you will need to supply a username on that system and a matching password.

Enter EXIT to leave before FTP starts.

Remote System Name: seq1.loc.gov
The Georgetown University Catalogue of Projects in Electronic Text

The Georgetown University Catalogue of Projects in Electronic Text is a powerful database that includes information on electronic text projects throughout the world. The database includes a variety of information on the many collections of literary works, historical documents, and linguistic data which are available from commercial vendors and scholarly sources.

The Catalogue describes each project or product, lists the texts which it contains, and provides information on format, price, availability, and other information to scholars who may be interested in finding and using electronic versions of these texts.

Note the following instructions carefully:

Once you are connected:

Press Control-C & (return) to exit at any time
Do you want to connect now? (Y OR N): [Y]

LIBS - Internet Access Software v2.0
Mark Rusner, Sonoma State University, Dec 1992

On-line services available through the Internet:
1. United States Library Catalogs
2. Library Catalogs in other countries
3. Campus-wide Information Systems
4. Databases and Information Services
5. Wide-area Information Services
6. Information for first time users

Press RETURN alone to exit now or press Control-C & (return) to exit at any time

Enter the number of your choice: [4]

example — as well as a broader range of communications tools for accessing other systems around the world.

For examples of the latter, glance at a few of the options on the Communications Utilities menu, which is reached by selecting Software from the main menu, and then Communications from the Software menu. From this menu, you can use Telnet (Option 1) to log in to another system on which you have an account, at NYU or elsewhere, and, if you like, to get a transcript of your Telnet session (Option 2) that you can subsequently download to your microcomputer using Kermit (Option 5). The Kermit option can be used both to download files to your microcomputer and to upload files that you wish to send to a colleague.

Another menu option (3) connects you to RLIN, giving you network access to the Research Libraries Group’s huge online database of bibliographic records from over 100 research universities, museums, and other institutions (see page 14 for more on RLIN).

By selecting FTP (Option 4), you can directly transfer files from or to another computer on which you have an account — or you can avail yourself of any of a growing number of archives of text, images, and public-domain software or shareware that are accessible over the Internet via Anonymous FTP. A number of these archives are mentioned in this issue of the newsletter — see, for example, the articles on the Library of Congress’s online Vatican Library exhibit, on Internet guides from NYSENet, and on Image software from NIH (pages 15, 16, and 26, respectively). Other archives have been cited in earlier issues, and the March 1992 newsletter provides a more complete discussion of file-retrieval over the Internet via FTP, as well as a list of useful FTP commands.

To use Anonymous FTP, you need to know the Internet “name” of the “host” computer on which the archive resides, but you do not need an account on the system: simply type anonymous when prompted for your username — or user anonymous, if you are not prompted — and give your E-mail address (e.g., hochberg@acfcluster.nyu.edu) as your password; if you are not prompted, precede it with pass. Typically, once you connect to the host, you will receive brief instructions on accessing the appropriate directory and obtaining files.

Other Information Sources

By selecting Option 8 (Network), you can jump to the Electronic Information Sources menu and a wealth of Internet-accessible information.

The Electronic Information Sources menu, which can also be reached directly from the E-mail account’s main menu, is definitely worth exploring. For example, one option brings you to LIBS, a system which gives you direct network access to library catalogs, bibliographic and text databases, and other information resources around the world. Other options bring you to a wide selection of network newsgroups, to the ACF’s INFOsystem, and to Xinformation, an experimental version of INFO currently under development. From
services that function as BITNET, which was the first major academic and research network in the country. BITNET was set up to provide the electronic homes and pathways for thousands of scholarly discussion lists and have been in operation since the mid-1980's.

Other online resources include electronic journals and books. Above, a menu of books available through the Internet Gopher system. Inset, the opening chapter of Alice and Wonderland.

Xinformation, you can reach BobCat and other resources on NYU's campus network, as well as a host of additional library catalogs, text and software archives, and so on. (Keep in mind, though, that Xinformation is an experimental system under development, and that the interface may be changing in the coming months.)

As an example, the other evening, I used LIBS to access Georgetown University's Catalogue of Projects in Electronic Text (CPET), an extensive database of content and access information on electronic text projects throughout the world. Through Xinformation, I connected to Princeton University's manuscript catalog, as well as to menus of Internet-accessible electronic journals and books.

**New PC and Mac “Clients”**

As with the older NYUmail accounts, the ACF's new Electronic Mail and Information Services Accounts operate on the ACFcluster of VMS computers. One can access these accounts from a PC or Macintosh, using “terminal emulation” software such as Kermit or NCSA Telnet. As an alternative, individuals with network-attached micro-computers may also obtain an ACF-developed package of PC and Macintosh “client” software, which makes available a subset of the features offered in the E-mail and Information Services menu, in a micro-based interface; please contact the ACF Faculty Microcomputer Lab (998-3044) for more on these.

Incidentally, holders of full-service accounts on the ACFcluster can connect to the new menu system by typing is (or information_services) at the VMS prompt. ACF guides to the new Electronic Mail and Information Services Accounts, and to the microcomputer clients mentioned above, can be obtained from the ACF Documentation Office (Room 306 Warren Weaver Hall, 998-3036).

**E-Mail Link to White House?**

In early February, an announcement of an E-mail link to the White House zipped around the networks like wildfire, and avid networkers began sending messages of congratulation and complaint.

Cautious observers suspected a hoax, but they were wrong; the announcement was real, though—in view of the overwhelming reaction—possibly premature.

The address — 75300.3115@compuserve.com — was a Compuserve electronic mailbox, which was soon stuffed to overflowing; many who sent messages were notified that their messages could not be accepted, since the box was full. The mailbox belongs to Jock Gill, who is responsible for electronic publishing for the White House. “We welcome your comments and suggestions for ways to improve your public-access E-mail program,” he said. “As soon as practicable, E-mail will be sent to the appropriate office for consideration. You should receive a written reply in due course. Unfortunately, we are not yet ready to respond substantively via electronic mail.”

— David Frederickson
Electronic conferences like the BITNET discussion "lists" allow scholars at universities around the world to exchange information and views quickly and conveniently via international networks and electronic mail (E-mail).

Previous issues of this newsletter have featured discussion lists focusing on a wide variety of topics in the humanities, arts, and the social, physical, and medical sciences. In this issue, we present a few newly discovered and rediscovered lists that we thought might be of interest. The box below tells you how to subscribe to these lists using E-mail. Users of ACF mainframes and minicomputers automatically have access to E-mail. Other members of the NYU community can obtain Electronic Mail Accounts (please see the box on page 17). For this article, the list name follows List, and the subscription address follows Sub. Unless otherwise noted, all E-mail addresses in this article are Internet addresses.

NATO. This list will distribute public data from NATO such as press releases, speeches, NATO articles, communiqués.
List: natodata
Sub: cc1.kuleuven.ac.be

Virtual Culture. The Arachnet Electronic Journal of Virtual Culture is created and published by Arachnet. Virtual culture is computer-mediated human experience and interaction, such as electronic mail, conferences, and journals; information distribution/retrieval; the construction and visualization of images or models of reality or worlds; and global connectivity. The purpose of the refereed journal is to foster, encourage, advance, and communicate scholarly thought, (including analysis, evaluation, and research) in multiple disciplines about virtual culture.
List: arachnet
Sub: acadvml.uottawa.ca

Public Libraries. PUBLIB is an electronic

### Subscribing to Discussion Lists and Electronic Conferences

Users of the ACF's UNIX, VAX/VMS, and VM/CMS computers — and holders of the ACF's Electronic Mail Accounts — can subscribe to electronic conferences and discussion lists by sending an E-mail message containing only the command

```
 subscribe list_name your_name
```

replacing list_name with the appropriate list name (e.g., acsoft-1) and your_name with your first and last name — for example,
```
 subscribe acsoft-1 mary smith
```

Send the message to the "subscription address" listed in the article. If you are using an Electronic Mail Account or a regular account on the ACF cluster of VAX/VMS computers, use the address format shown below under "VMS." Address formats for UNIX and CMS systems are also shown. POP (post office protocol) mailers — programs that handle E-mail on microcomputers, such as Eudora for the Macintosh and NUPOP for the IBM-type PC — use a simple address form.

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You will receive an E-mail acceptance of your subscription, which will include instructions for unsubscribing. Be sure to save that information, or you may find it hard to get off the list. Then sit back and wait for your messages to start arriving.
discussion group that concentrates on
the needs of public libraries. Issues to be
examined include public access to the Internet,
reference resources of interest to librarians,
technologies for public-library Internet
access, national, international, and regional
public telecommunications policy and pub-
lic libraries, and more.

List: PUBLIB
Sub: listserv@nysernet.org

Psychology. There is a new electronic jour-
nal in the field of psychology, called the
Psychology Graduate Student Journal: The
PSYCGRAD Journal (PSYGRD-J). The
purpose of the journal is to publish, from
the graduate student perspective, profes-
sional-level articles in the field of psychol-
ogy. The PSYCGRAD Journal is primarily
published and written by graduate students
in psychology. It is targeted for anyone
interested in the field of psychology.

List: psycgrad
Sub: acadvm1.uottawa.ca

Video Production. The focus of discussion
of VIDPRO-L is will be professional video
production at all levels. However, anyone
with an interest in video production or
equipment operations is invited to subscribe
and join the discussion. The list can also
serve as a point for asking questions about
equipment purchases, equipment problems,
production problems, etc.

List: vidpro-l
Sub: uxa.ecn.bgu.edu

Computer-Art Discussion List at NYU
The ACF is host to a new discussion list
concerning hardcopy computer art. The
PAPER-L electronic discussion list is de-
signed to provide a place for artists and
technicians to discuss the use of hardcopy
media for computer art, and other issues
related to such art. This would include, for
example, discussions of various printers,
papers, and related photographic processes,
archival issues, esthetic issues, the an-
nouncement of computer art shows and
gallery openings, and market issues relating
to computer art. This bulletin board is an
outgrowth of the “works on paper” birds-of-
a-feather meeting at the Siggraph ’92 meet-
ing held in Chicago.

Members will hopefully meet at Siggraph
’93. Growth is expected in the E-mail par-
ticipation of artists on other networks (e.g.
CompuServe) via internet gateways, inter-
ested printer and imaging companies, and
related service companies and galleries.

List: paper-l
Sub: acfcluster.nyu.edu

Health Sciences Resources available via
the Internet/BITNET
An extensive list of Internet/BITNET-access-
sible electronic resources dedicated to health
sciences and services is available via anonym-
ous ftp from ftp.sura.net. The directory
path is pub/nic, and the file name is
medical.resources.xx-xx, where xx-xx are
numbers representing the day and month of
the most recent update.

The list, compiled by Lee Hancock of the
University of Kansas Medical Center, covers
a wide spectrum of resources including: elec-
tronic discussion lists, USENET news
groups, electronic journals, ftp sites contain-
ing various information, electronic journals,
databases, medical libraries, and a selected
list of e-mail address for health agencies
world-wide.

There are several E-mail discussion lists
mentioned, on a wide variety of topics in-
cluding: addict-l which discusses types of
addiction, cancer-l a cancer discussion list,
familysci for researchers of family science,
and proteins a discussion list of protein
analysis.
Software Review

Learning Demography through Computers

by Robert Burnham
burnham@acfcluster.nyu.edu

Robert Burnham is Professor of Educational Administration in SEHNAP and Director of its Center for Educational Technology and Economic Productivity.

Professionals from the social sciences are greatly interested in demography and population dynamics, since these dynamics influence many of our social, political, and economic efforts. The science of demography deals with the size, composition, and distribution of populations. Demographic concepts represent important variables in many of our public-policy issues, particularly in education and related social services.

An Integrated Text

With the objective of having our students of educational administration understand both the basic demographic concepts and assumptions and the use of the microcomputer as a tool for decision making, this semester I introduced an integrated text, DEM-LAB: Teaching Demography through Computers by Vivian Z. Klaff (Englewood Cliffs, N.J.: Prentice-Hall, 1992) in my course on Demographic Analysis and Long-Range Planning. DEM-LAB is a 240-page textbook plus a 3.5 inch diskette for IBM compatibles, with five compressed demographic application programs plus templates and data for use in spreadsheet software.

I believe Klaff's text and assembled programs represent good use of computer software for teaching in the social sciences. With step-by-step instructions in the text to get novice computer users up and running, the applications themselves use tutorial approaches to guide the user through the programs, and to aid the user in making choices, understanding the basic concepts, and experiencing interactively the consequences of changing assumptions, parameters, and variables.

The programs cover several interrelated areas:

- population projection methods (DemProj)
- understanding demographic concepts (POPSHOW)
- using the demographic equation and fertility and mortality measures (UDemog)
- exploring age structure of a population (Pyramids)

A fifth program enables interactive population projection using data for 120 countries (DemoGraphics). In addition, the package provides templates and information that can be used with a spreadsheet program to carry out a number of learning projects.

While the spreadsheet program is formatted for Lotus 1-2-3, it is easily imported into Microsoft Excel.
comparable programs, e.g., Microsoft Excel for Windows.

A Course of Study

Klaff’s first chapter explains how to decompress and copy the application programs to two or three diskettes in a simple manner that will enable even novice microcomputer users to access and manipulate the programs.

Chapter 2 discusses world population, and moves quickly into topics like population size and the demographic equation, rates of growth, doubling time, and demographic transition. Using several of the computer programs, students manipulate the stored data, producing graphs and charts that aid in learning the underlying concepts.

The third chapter covers population projections, including assumptions like birth, death, and migration rates, and the component projection method. With POPSHOW and DemProj, the learner works through several projections using the data provided. Then, the learner is given an opportunity to collect and enter demographic data for a country of his or her choice and to project the population for future years. Tables, graphs, and population pyramids create a visual display of the projected outcomes.

Chapter 4 examines the age-sex structure of a population that portrays a country’s or region’s demographic situation. After a brief explanation in the text, the student is guided through several computer-based projects to learn how to construct components of a population pyramid, how to interpret the structures, and how a pyramid changes over time. Data are provided for demonstration purposes, and other data sets can be imported from user worksheets.

Using DEM-LAB

In the illustrations accompanying this article, pyramids depicting the changing age structure of the U.S. population from the baby boom in 1960 through 1980, and projected to 2000, show the dramatic changes in age structure. Students can interactively project population pyramids five years at a time to the year 2100 using current fertility and mortality rates; immigration is not included in the projections.

In addition to the active learning that takes place using DEM-LAB, our students use spreadsheet programs extensively in carrying out grade-by-grade cohort survival projections of school populations. Finally, graduate students learn the fundamentals of geographic information systems and desktop mapping as tools for locating student populations within the geographic boundaries of school attendance areas.

These programs included in DEM-LAB were produced separately at several universities, and unfortunately do not share a common interface. However, Klaff has performed a good service in bringing them together in a single package with her book. These improved computer tools have had a beneficial effect on both learning and decision-making in education. The benefits of such technology can extend to the preparation of leaders and learners at all levels of education.

SA/GIS Meeting Schedule Revised
The Spatial Analysis and Geographic Information Systems (SA/GIS) meeting originally scheduled for March 23 has been moved to March 29, 6:00–8:30 pm in Room 313, Warren Weaver Hall, for a special demonstration of ARC/INFO’s workstation software. This is a joint meeting with the NYPC SIG on Statistics and Desktop Mapping.

Also, SA/GIS’s final meeting of the semester has been moved to April 23 to coincide with the ACF Colloquium mentioned below.

Special Colloquium on GIS
On April 23, at a special NYU colloquium, Michael F. Goodchild, Director of the National Center for Geographic Information and Analysis at the University of California at Santa Barbara, will speak on GIS and some of the NCGIA’s current projects.

For more information, please see the notice on page 5 of this newsletter.
Update on the ACF’s Data Base Archive

by Bert Holland
holland@accluster.nyu.edu

and Lisa Barnett
barnett@accluster.nyu.edu

The following are some of the data sets that have been acquired by the ACF’s Data Base Archive since the report in the January 1993 issue of this newsletter. The ICPSR numbers, included below for your convenience, are reference numbers assigned by the Inter-University Consortium for Political and Social Research, the organization from which these files were obtained. Most of the data sets are stored on magnetic tape, but the ICPSR has just started releasing some of its studies on CD-ROMS — compact disks with up to 600 megabytes of read-only memory.

1. Longitudinal Career Histories of Public School Teachers from Colorado, Michigan, and North Carolina, 1972–1986. This data set contains information about how teachers become certified, and patterns of entering and leaving the teaching profession. It also includes career histories, NTE scores, subject-area specialization, salary history, school-district demographics, and respondents’ demographics. (ICPSR 9320)

2. National Longitudinal Survey (NLS) of College Graduates. This collection focuses on those college graduates who choose to enter the teaching profession. The data are from three national longitudinal surveys by the US Census Bureau of students graduating college between 1967 and 1985. Information regarding respondent’s characteristics, educational characteristics, employment status, and teaching status can be found among the 154 variables contained in this dataset. (ICPSR 9390)

3. World Handbook of Political and Social Indicators III: 1948–1982. This collection has four files: aggregate data, daily political events, annual political events, and quarterly political events. Each file contains information for over 150 countries worldwide. The aggregate data file includes series to “indicate conditions under which governments have to operate and for which they may be held responsible.” These range from economic indicators to literacy rates, measures of inequality, nutrition measures, etc. The remaining files describe 38 kinds of domestic events. The daily political events files include demonstrations, riots, strikes, assassinations, elections, referenda, and imposition or relaxation of political restrictions, including censorship. This information is then aggregated for the quarterly and annual files. (ICPSR 7761)

4. World Factbook CIA, 1989. This data file “contains the most current information on topics of interest to United States government officials.” This data set contains information covering geography, people, government, economy, communications, and defense forces for 247 entries worldwide. (ICPSR 9366)

5. World Handbook of Political and Social Indicators 1961–63. Contains data on social, political, economic, and demographic indicators for 141 polities. (ICPSR 5022)

6. World Tables of Economic and Social Indicators 1950–88. This dataset contains economic and social indicators for over 130 countries. The numerous economic indicators are presented in constant 1980 prices and in current prices. (ICPSR 9300)

7. American National Election Study Cumulative Data File: 1952–1990. This collection contains a subset of the over 700 variables from the total ANES series from each of the 20 biennial election studies conducted since 1952. (ICPSR 8475) (continued on page 31)
Latest Developments in Fortran

Fortran 90, High-Performance Fortran, and Forge 90

by Eleanor Kolchin
kolchin@accluster.nyu.edu

with David Frederickson
frederickson@accluster.nyu.edu

Science and Visualization

Since its appearance in 1956, Fortran has become the most popular programming language among scientists and engineers. Fortran was developed at the Watson Scientific Computing Laboratory of IBM, and soon evolved into a standardized programming language. One of its main assets was its portability — it could be used on many computers. Its success bred numerous extensions for various applications, and it was eventually necessary to produce new extended standards: Fortran 66 in 1966, then Fortran 77. Recent developments in computer hardware (vector or array processors, in which a single function can be performed on an array of numbers at the same time, rather than one at a time; and parallel processors, in which functions are performed on separate processors at the same time) have called for new techniques in programming languages. Three important developments in Fortran are the brand-new Fortran 90, the High Performance Fortran or HPF, and Forge 90, a translator for parallel processing.

Fortran 90

Once the Fortran 77 standard was published, work began on a new and better Fortran, and we now have Fortran 90 — which contains all of the features of Fortran 77 within it. The new features of Fortran 90 continue to enhance Fortran for scientific

NIH Image Demonstrated at ACF Special Technical Seminar

Edward J. Huff, a Ph.D. candidate in the Biomolecular Chemistry Program (Chemistry, GSAS), recently demonstrated some of the finer points of NIH Image at a special technical seminar co-sponsored by the ACF, CIMS, and the FAS Departments of Biology, Chemistry, and Computer Science.

NIH Image is public-domain Macintosh software for scientific visualization and analysis. Its broad array of tools allow an image to be processed, measured, and analyzed in a variety of ways, to produce histograms, surface plots, and so forth. It incorporates a Pascal-like macro-programming language, which makes it possible to automate complex and repetitive processing tasks.

NIH Image was produced by Wayne Rasband at the National Institutes of Health, and has had contributions from others, including Mac Balloon Help recently added by Mr. Huff. The software is available free of charge from the NIH via anonymous ftp. To obtain the files, log on to zippy.nimh.nih.gov and then type cd /pub/image.

An active discussion list is hosted by the Soil Sciences Department at the University of Minnesota, where users trade tips and macros written for NIH Image. To subscribe to the list, send E-mail to listserv@soils.umn.edu with the message subscribe nih-image your name (for more about subscribing to discussion lists, see the box in the Networks section).

We hope to have an article by Mr. Huff on NIH Image in a future issue of this newsletter.

— David Frederickson

NIH Image

Surface plot of a single DNA molecule processed using NIH Image. Inset: Grayscale image of the same data.

26 — March 1993 — Academic Computing and Networking at NYU
applications and also to extend the language to other areas that are now important in scientific and engineering programming. Here we can only mention some of the new features:

- Control structures have been modernized and include Case, While, and Cycle.
- Numerical precision can be specified in a more portable way.
- Arrays of data can be manipulated in a single operation, and users may define array-valued functions.
- Arrays may be allocated dynamically; for example the size of an array may be determined as the program is executing.
- The Pointer feature permits data to be accessed and processed dynamically.
- Data Structures are permitted to process numeric and non-numeric data.
- New features are available for Procedures, including recursion.
- A Module can declare global data and is less error-prone than common blocks.
- There are new non-advancing or "stream" character-oriented input and output.
- Include permits the inclusion of source code from a specified file.

High-Performance Fortran

High Performance Fortran (HPF) is a standard that has been proposed to deal with adapting Fortran for use on the next generation of computers — massively parallel processor machines. The High Performance Fortran Forum (HPFF), organized at Rice University, met several times during 1992 to propose standards for the decomposition of numerical arrays across parallel systems.

Though Fortran is portable, computer programs written in Fortran cannot be understood directly by the computer, since each machine operates and executes only in its own machine language. Compilers are language processors that translate higher-level languages into lower-level languages — e.g., from Fortran to the language for a given machine. In the past 30 years, the Fortran compilers for vector processors have progressed from primitive compilers to the sophisticated compilers of today. Parallel systems present many new problems, and compilers are now at a primitive stage in solving these new challenges. The search is on for the distant Eldorado of "automatic parallelization." Meanwhile, the potential overhead involved in executing in parallel is typically greater than the overhead for vectorization, and one must be careful not to let the overhead run away with the computation. The person writing parallel programs has an unparalleled opportunity to write inefficient, and hard-to-debug code. Eventually all parallel systems will require special attention to data layout and alignment.

The language proposed by the HPFF is mostly Fortran 90 with data-distribution directives. Most compilers today analyze a single program unit at a time, and the compilers have to rely on the programmer’s judgment of how the data are to be distributed.

Forge 90

Forge 90 (for Fortran Generalization) is a software package of APR (Applied Parallel Research, of Placerville, Calif.); it accepts a subset of HPF data-distribution directives on top of the standard Fortran 77 language. It is an interactive graphical tool to help the user understand, maintain, convert, and optimize large Fortran programs. Forge 90 can be used to get a timing profile of a Fortran program, a cross-reference of all uses and definitions of variables, call graphs, and the like. Forge 90 is a compiler that can analyze an entire program as a unit, which is important for effective parallelization. In general, it supports the sort of code analysis one needs in order to parallelize a program efficiently.

For Further Information

Those interested in more details are invited to examine either of the books on Fortran 90 available at the ACF: The Fortran 90 Handbook: Complete ANSI/ISO Reference by Jeanne C. Adams, et al.; and Fortran 90 Explained, by Michael Metcalf and John Reid. The ACF also has a Fortran 90 compiler from Numerical Algorithms Group (NAG), and the Baseline Forge 90 translator from APR. For further information, contact
ACF consultants Erika Epstein (epstein@acfcluster.nyu.edu) or Eleanor Kolchin (kolchin@acfcluster.nyu.edu) at 998-3037. The Fortran 90 Handbook is available at the ACF Documentation Office, at Warren Weaver Hall, Room 306.

SPARTAN Molecular-Modeling Program Comes to NYU

In collaboration with the FAS Departments of Chemistry and Biology, the Academic Computing Facility is in the process of obtaining a site license for SPARTAN, a new molecular-modeling and computational-chemistry program from Wavefunction Inc. of Irvine, California. The software utilizes a well-engineered graphical user interface (GUI), which makes it easier to use and to learn than many older programs with comparable capabilities.

The SPARTAN electronic structure program provides a visual environment that allows access to popular computational-chemistry techniques, such as molecular mechanics, semi-empirical, and ab initio molecular-orbital models. SPARTAN’s compute modules run on all high-performance machines, but the graphics modules run only on workstations equipped with graphic capabilities, such as the ACF’s IBM RS/6000 and Silicon Graphics workstations. A future issue of this newsletter will describe how SPARTAN is used by researchers at NYU on ACF systems.

For more information, please contact me by E-mail or at 998-3051.

— Ed Friedman
friedman@nyu.edu

Science and Math Software for the Macintosh

Specialized science and math software is available on several ACF microcomputer file servers, and is accessible from the Macintoshes at any of the ACF computer labs. The software covers topics in a wide variety of disciplines, ranging from introductory calculus to scientific visualization. In addition to these software packages, there are also demos of software (not currently supported by the ACF) available for further examination. Contact the ACF HelpLine 998-3333. (For information about an archive of public-domain mathematical software, please see page 27 of the January 1993 newsletter.)

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Tektronix Color Printer at ACF

A Tektronix Phaser PXi color printer is available at the ACF Visualization Center, Room 317, Warren Weaver Hall. It can produce a 300-dots-per-inch Pantone-certified color print, using a three-color thermal-wax transfer technology, employing cyan, magenta, and yellow dyes.

The device contains a built-in Level 2 PostScript interpreter, which can handle PostScript files containing 24-bit color images. Using 24 bits of data to describe each dot of color means that over 16 million colors are available on the user’s palette.

The printer is connected to the local area network, and color PostScript files can be downloaded from selected host systems. With its ten megabytes of RAM (random access memory), it is capable of handling very large color files and will produce presentation-quality images on paper or transparencies in two sizes — letter size (8.5 x 11 inches) and legal size (8.5 x 14 inches).

For more information on its use and possible associated costs, please contact Ed Friedman at the ACF (friedman@nyu.edu or 998-3051).

— Ed Friedman
Taxes and Faxes

The Latest Additions to a Growing Store

Since its opening shortly after Labor Day, the New York University Computer Store has seen many changes and adjustments. The still-fledgling store is making continuous progress in expanding the variety of products that are available to the University community.

In the last month, we have added several new software packages, books, and accessories to our line.

**Taxes and Beyond**

With income-tax season here, we are featuring some of the more popular tax and accounting software packages. Of the popular tax programs available, the NYU Computer Store is now carrying MacInTax and TurboTax for Windows and DOS. Broader accounting programs include Accounting Plus, ACCPAC Accounting, and Andrew Tobias’s Managing Your Money.

For those who have already finished their taxes, we also now carry MacroMind Director, for producing moving images, and QuarkXPress, a high-end publishing package. Of special interest to people in desktop publishing is a peripheral item we are now stocking — the Syquest 44-megabyte cartridges that are useful for storing and transporting large graphics files.

**Modems and More**

Modems and fax-modems can connect your home computer to the outside world. We now carry practically every modem conceivable from Zoom Telephonics, starting with 2400-bits-per-second data-only modems for about $100. The line is bolstered by excellent telecommunications products from US Robotics and Practical Peripherals. Software support for telecommunications is offered by a number of programs such as WinFax Pro for Windows and FaxPro for DOS. A full line of boards for Ethernet connections and the campus network is also available through the Store.

We have expanded our book department to include a section to display the latest arrivals. Some of the popular current titles are *The Whole Internet User’s Guide*, by Ed Krol; *Inside Windows NT*, by Helen Custer; *Que’s 1993 Computer Buyer’s Guide*, by Bud Smith; and *Real Men Use DOS (and Real Women Know Why)*, by Mike Miller. We also carry the documentation for such statistical programs as SPSS, SYSTAT, and SAS. Come in and check the shelves — or ask us; if the book you are interested in is not on hand, we’ll be happy to order it for you.

**Services Offered at the NYU Computer Store**

The New York University Computer Store now provides a full range of computer services. The store, located at 242 Greene Street (phone 998-4672), offers academic prices to NYU students, faculty, and staff on a full line of computer hardware, software, and books. The store’s services include:

- Memory upgrades for Macintosh and IBM computers
- External and internal hard drive sales and installation
- Macintosh and IBM service, upgrades, and repair — on-site or carry-in
- Software installation

The NYU Computer Store is open Monday through Wednesday and Friday from 10 am to 6 pm, Thursday from 10 am to 8 pm, and Saturday from noon to 6 pm.
In recent months, Apple Computer and Hewlett-Packard have announced new lines, now available through the Purchasing Services Division at excellent prices for departmental purchase. Here are highlights of some of the more promising units, culled from the manufacturers’ descriptions.

**Apple Macintosh computers**

The Macintosh PowerBook 165c offers a 256-color display in a package that weighs just seven pounds and can fit into a briefcase. Its 33 megahertz 68030 processor and floating-point unit (FPU) provide superior processing power, and with up to 14 Mb (megabytes) of RAM, it can handle multiple applications simultaneously. It is available with an 80 Mb or 120 Mb disk drive.

The Macintosh Color Classic is a basic unit that adds a high-resolution, 256-color Trinitron display to the familiar Macintosh Classic all-in-one design. The Color Classic provides easy access to the logic board for upgrades: you can expand memory up to 10 megabytes, or install a video memory upgrade to display over 32,000 colors.

The Macintosh LC III features a slim desktop design. With a 25-MHz 68030 microprocessor, it is almost twice as fast as the Macintosh LC II; with up to 32 Mb of RAM, users can work with several applications simultaneously. The LC III provides 512K of video RAM (expandable to 768K). Ports allow users to expand the system with peripheral devices such as CD-ROM and hard drives, scanners, and modems.

The Macintosh Centris 610 and 650 contain 68040 processors and offer power and expandability in a low-profile design. Up to twice as fast as the Macintosh IIci, the Centris 610 can readily handle demanding graphics and multimedia applications with 512K of on-board video RAM (expandable to 1,024K). Users can also choose an internal hard disk, from 80 Mb to 500 Mb, opt for on-board Ethernet networking, and even connect two displays. A high-speed SCSI interface accepts additional peripherals, such as scanners or storage devices. AppleTalk networking is built in. The Centris 650’s standard 5 Mb of RAM can be expanded to 132 Mb. It is equipped to handle complex tasks, and it reads Macintosh, DOS, and OS/2 floppies.

The Quadra 800 is the most powerful desktop Macintosh, with a 33-MHz Motorola 68040 processor and up to 136 Mb of RAM for tasks that require production-level computing — color publishing, software development, data analysis, scientific visualization, three-dimensional modeling, CAD, etc. It holds up to four internal storage devices — CD-ROM drives, high-capacity SyQuest drives, or additional hard drives.

**Apple LaserWriter Printers**

The Apple LaserWriter Select 300 printer offers a convenient, reliable way to produce professional-quality letters and reports. The new printer also comes with FinePrint technology to smooth out lines and curves. In addition, customers can add Adobe PostScript compatibility or PhotoGrade technology to print documents containing graphics or images with 90 levels of gray.

The LaserWriter Select 310 is designed for personal use by Macintosh and Windows users. Adobe PostScript printing provides high-quality results and compatibility with...
major application programs, as well as a selection of 13 scalable fonts. The Apple LaserWriter Pro 600 prints at 600 dots per inch, and has Apple’s Photograde technology and 8 Mb or RAM as standard features. For further product information contact NYU’s Apple representative, Mr. Bruce Prevo (at 339-3729 or prevo1@applelink.apple.com).

**HP LaserJet 4 and 4M**

Hewlett-Packard’s new LaserJet 4 and 4M print at 600 dpi with HP’s Resolution Enhancement technology for excellent results. Fast RISC processors and enhanced input speeds allow printing at 8 pages per minute, and memory expandable to 32 Mb enables the printers to handle complex graphics.

The LaserJet 4 is designed for the PC-only environment, and the LaserJet 4M for a Macintosh or mixed environment. “Hot” input-output slots switch automatically between parallel, serial, and AppleTalk or MIO ports. Both printers include 45 Intellifont and TrueType fonts, with Adobe PostScript fonts as an option. Many more fonts are available in cartridges from the HP MasterType library. The printers feature a microfine toner, made to take advantage of the printer’s smaller-dot 600-dpi resolution.

The LaserJet 4 features a PCL5 for fast printing from Windows, DOS, and OS/2. HP Explorer software is included for fast setup and online assistance in a DOS single-user environment. Both LaserJets feature automatic language-switching between enhanced PCL 5 and PostScript languages.

NYU’s price for the laserjet 4 and 4M are respectively $1245 and $1735 from Westwood Computer Corp. For further product information, contact NYU’s representative at Westwood, Mrs. Nilima Palekar at (201) 376-4242.

**Warranties**

Not all computer warranties are the same. NYU purchases most of its personal computers from four manufacturers: Apple Computer, IBM, Gateway 2000, and Dell Corp. The warranty period starts on the day of delivery and typically covers any defect in material and workmanship. Most computer warranties run for one year, but some manufacturers, such as IBM, offer warranties of two or three years, and some offer lifetime warranties.

All four manufacturers offer NYU extended maintenance plans for an additional charge, but usually at a higher cost than the price agreements currently in effect with NYU’s three PC maintenance companies: Key Systems, Computerland, and CMI.

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**Data Base Archives (continued from page 25)**

Eurobarometer 32: The Single European Market, Drugs, Alcohol and Cancer, November 1989. Another in the series of surveys of adults in the 12 member nations of the European Community. This survey focuses on the health topics, the Single Market of 1992, world affairs, respondent demographics, and opinions on various political and social issues. (ICPSR 9519)

Survey of Income and Program Participation (SIPP) 1988 Panel. The fifth panel of the ongoing longitudinal survey designed to monitor the changing economic situations of the America population. (ICPSR 9568)

Basic Geographic and Historical Data for Interfacing ICPSR DATA SETS, 1620-1983 [United States] This file contains information needed for mapping county-based data for anywhere in the United States. This will be useful to interface ICPSR datasets with SAS/GRAPH, SURFACE II, and SYMAP. Special facilities exist for ICPSR datasets. (ICPSR 8159)

Census of Population 1880 [United States]: Public Use Sample ( 1 in 1000 Preliminary Subsample). This file contains both family and person records. The household record includes family size and geographic location; the person record includes demographics of the family members. (ICPSR 9474)

The DBA receives frequent additions. More will be listed in future issues of the newsletter. For further information, please contact Bob Yaffee or Bert Holland (see box on page 25).
NET '93: Extending the Benefits

The NET '93 policy conference devoted to issues surrounding the National Research and Education Network (NREN) will be held at the Loew's L'Enfant Plaza Hotel in Washington, D.C., April 14-16. This year's conference features Eric Benhamou, CEO of 3Com Corporation, and Governor Jim Hunt of North Carolina as plenary speakers.

The conference will include sessions on such topics as “Sex on the Internet: Right or Wrong?” “Citizen Access,” “At the Statehouse: The ‘E’ in NREN,” “From a Network of Networks to a Community of Communities,” “K-12,” “Images and Documents,” “Multimedia on the Internet: Reaching the Classroom,” “Internet Video: Meltdown or the Next E-Mail?” and the annual Congressional update. Also featured will be several leading-edge applications showing the power of the NREN. The primary forms of the demonstrations will be video, network navigation, and network information services.

For information contact Elizabeth C. Barnhart, barnhart@eduocom.edu.

X Windows Users Group

A new group for users of X Windows, the graphical user interface (GUI) for the UNIX system, has been meeting since last August. The New York X User's Group (NYXUG) draws members largely from NYU faculty and staff, both from the School of Medicine and the Washington Square campus, but other contingents come from Wall Street and advertising.

Meetings generally feature demonstrations of programs for the X Windows environment, such as GUI builders and toolkits. In February, representatives from UNIRAS presented aqX/Toolmaster, a suite of high-level graphics tools for analysis, visualization, and presentation of scientific and engineering data, and its newer mid-level point-and-click sibling, Unigraph+ 2000.

The group hopes soon to have both an electronic bulletin board provided by the ACF and a library of books and other useful information. The NYXUG meets on the third or fourth Wednesday of the month, an organizational meeting is planned for March 24. For more information, please contact Chris Siegel (chris@mchip01.med.nyu.edu or 263-5744) or Marni Alvarez (668-6020).

Information Systems Colloquia at Stern School

The Information Systems Department of the Stern School of Business is offering a series of colloquia and research seminars, open to the NYU community, on topics relating to information systems and network use. Among the upcoming seminars of interest are a presentation by Dennis Egan of Bellcore (Bell Communications Research) on experiments with multimedia publications (March 31 at 3:30) and one by Professor Jon Turner of the Stern School on reengineering organizations and designing business processes (April 7 at 3:30). For further information, please contact Professor Shimon Schocken at sshochken@stern.nyu.edu or 998-0841.

Other Upcoming Events of Interest

April 5–7: Technology and Persons with Disabilities — New Applications in Environmental Accommodations. Milwaukee. Contact: casmith@uwstout.edu or (800) 457-8688.
June 17-18: Virtual Reality and Disability. San Francisco. Contact: vr@vax.csun.edu or (818) 885-2578.
September 30–October 1: NYSERNet Conference '93. Rochester, New York. Contact: conference@nysernet.org or (315) 443-4120.
October 1–2: International Conference on Refereed Electronic Journals: Towards a Consortium for Networked Publications. Winnipeg. Contact: umih@ccu.umanitoba.ca or (204) 474-9599.
October 17–20: EDUCOM '93 — Crafting New Communities. Cincinnati, Ohio. Contact: conf@eduoom.edu

The conferences, expositions, and other events listed here relate to different aspects of the use of computers and networks in higher education. We welcome your information on similar events coming up through February 1994; please mail it to David Frederickson at the ACF (Room 308, Warren Weaver Hall, 251 Mercer Street, NYC 10012, or frederickson@acfcluster.nyu.edu).
**Important ACF Telephone Numbers**

ACF HelpLine  998-3333  
Account Information  998-3035  
Computer Documentation  998-3036  
Faculty Microcomputer Lab  998-3044  
Applications Consultants:  
- 14 Washington Place  998-3396  
- Tisch Hall  998-3434  
- Education Building  998-3423  
- Warren Weaver Hall  998-3037  
- Third Ave. North Res. Hall  998-3500  
Computer Labs:  
- 14 Washington Place  998-3457  
- Tisch Hall  998-3409  
- Education Building  998-3421  
- Warren Weaver Hall  998-3456  
- Third Ave. North Res. Hall  998-3504

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**Dial-in Access to ACF Computers**

(Via NYU-NET, NYU's campus-wide network.)

If calling from

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*This number is recommended if you are using an old-style modem that has no error-correcting.

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**Guide to ACF user work areas and other facilities**

1. Warren Weaver Hall  
251 Mercer St., 3rd floor

2. Tisch Hall  
40 W. 4th St., lower concourse  
(Rooms LC-7 and LC-8)

3. 14 Washington Pl.  
basement

ACF microcomputer labs are at (2), (3), (4), and (6). NYU Trolley route includes (6): weekdays, every 15 minutes (8 am - 3 am) and weekends (7 pm - 3 am) during the academic year.

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**Hours at ACF Sites**

**User Work Areas:**

| 14 Washington Place | 8:30 a - 11:30 p | 8:30 a - 5:30 p | closed |
| Tisch Hall          | 8:30 a - 11:30 p | 8:30 a - 5:30 p | closed |
| Education Building  | 8:30 a - 11:30 p | 8:30 a - 5:30 p | closed |
| Third Ave. North    | 10:30 a - 1:30 a | 10:30 a - 5:30 p | 10:30 a - 5:30 p |

**Consultants:**

| 14 Washington Place | 9:00 a - 9:00 p | 9:00 a - 5:00 p | closed |
| Tisch Hall          | 9:00 a - 9:00 p | 9:00 a - 5:00 p | closed |
| Education Building  | 8:30 a - 9:00 p | 9:00 a - 5:00 p | closed |
| Third Ave. North    | 10:30 a - 10:00 p | 10:30 a - 5:30 p | 10:30 a - 5:30 p |

**Holiday Hours**

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<tr>
<td>10:30 a - 5:30 p</td>
<td>10:30 a - 5:30 p</td>
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*Holiday hours are tentative. Confirmed holiday schedules will be posted via our online news and bulletin board facilities. Note: The ACF offices in Warren Weaver Hall are closed on University holidays.

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Spring 1993
### Academic Computing and Networking at NYU

#### Featuring

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<tr>
<th>Instructional Computing</th>
<th>Networks and Network Services</th>
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<tr>
<td>New Equipment for Computer-Assisted Lectures</td>
<td>A Sampling of Internet Guides 16</td>
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