

THE COOK INFORMATION RESOURCE CENTER

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In 1994, a state-of-the-art Information Resource Center designed to support instruction and research in the life sciences will open on the Cook campus of Rutgers University in New Brunswick. Located in the new Agricultural Biotechnology and Plant/Life Science Complex, the Information Resource Center will be one element of a science study center designed to link physically the teaching and research functions of the building. This article will briefly describe the challenges presented to libraries by science information. It will compare the overall program goals and design components of the Cook Information Resource Center with those of the Library of Science and Medicine, which was constructed at a different time in the development of science initiatives at Rutgers, and describe how tomorrow's technology is shaping the program of the new Information Resource Center.

The Challenge of Scientific and Technical Information Service

To be successful, science and technology libraries must provide immediate access to a broad and growing array of information resources. Three aspects of scientific and technical information, and its application to study and research, dictate science libraries efforts:

- 1) Scientific and technical information is most valuable when it is current, accurate, and easily accessible; 2) interdisciplinary work in science and technology has been increasingly prevalent since the Manhattan Project of the 1940's; 3) the amount of information available in both traditional paper and electronic formats has been expanding exponentially over the past several decades.

Scientists today work increasingly in narrow but interdisciplinary areas. New journals which report results of research in these areas are born every month, but the array of journals which must be consulted to

support interdisciplinary inquiry is so vast that researchers find it difficult to keep up:

For example, at present it is estimated that 75% of the scientists who have ever lived are presently alive, and the rate of knowledge now doubles every five years. The amount of published materials is increasing at 2.5% per year, and the size of research library collections tend to increase by 50% every 8 to 10 years. Meanwhile, the number of network databases available online or through CD-ROM (Compact Disc - Read Only Memory) computer technology is so numerous that it requires an index the size of a small telephone book to list them all. Further, the abundance of information available today is matched by rapidity in communication as researchers can immediately share and develop work in progress via telefacsimile and computer network teleconferencing technology.¹

The concept and proposal documents for the Library of Science and Medicine and the Cook Information Resource Center responded to these challenges in ways that reflect the times in which they were written. Development of the Library of Science and Medicine permitted consolidation of scattered collections of science materials into one facility which could support the growing interdisciplinary approach to scientific and technological investigation, while the Cook Information Resource Center will use new electronic technology to bring the richness of this collection and the world of scientific and technical information to students and researchers on the Cook campus. Both the service program and the physical facility of the Cook Information Resource Center will be an integral part of developing instructional and research initiatives at Cook College. As one component of a centrally located science study center, the Information Resource Center will serve students as a model of how scientists in a modern research facility obtain and process information.

Background: Meeting State and University Needs

The Library of Science and Medicine opened its doors in August 1970. It was funded by the University, a state bond issue, and a grant from the National Institutes of Health. It was designed and continues to serve both the growing Rutgers science campus in Piscataway (now Busch campus) and the Rutgers (now Robert Wood Johnson) Medical School. The Library was conceived at a time when research programs and enrollments in the sciences were growing rapidly. The University

sought to respond to a report from a special Gubernatorial committee appointed to study higher education which found that the need in New Jersey for professional and technical training was twice the national level and that between 1960 and 1970 the largest rate of growth would be in the professional field. The report also noted that there was a rapidly growing demand for well-educated men and women in virtually every branch of science and technology and that the State University should supply this need.²

Discussions about establishing a science campus in Piscataway led to the drawing of architectural plans in the early 1960's.³ At the same time, the dean of the new Rutgers Medical School, also under development and to be located in Piscataway, wished to provide medical faculty and students access to both scientific and medical collections:⁴

The question of library facilities for the school was discussed in 1962 and it was agreed upon by the University authorities...that an opportunity existed to establish a common scientific library to which the medical faculty as well as the other science faculties would have access to the bulk of the scientific collections of the University. It was known at the time that this was a departure from the normal practice of separated libraries for medical schools.⁵

While these plans were underway and during construction, the state legislature and governor transferred administrative responsibility for the Medical School from Rutgers to a Board of Governors responsible for the new College of Medicine and Dentistry of New Jersey. The various controversies that raged as Rutgers and the College worked to separate were symbolized architecturally by the Library's two front doors, one facing the medical school and one facing the Rutgers science campus. Although located directly adjacent to the site selected for the basic medical sciences building and at some distance from other science buildings, the library building remained a Rutgers facility.

The University was also working more closely with the broader scientific community of New Jersey, and the Library was viewed as enhancing that growing partnership. In 1963, University President Mason Gross, referring to the new Library, wrote:

The proposed Rutgers Science Reference Center is the logical next step in the steadily broadening and deepening interrelationship between the State University's library system and the scientific community of the state.... The Science Reference Center will, we believe, make it possible

to expand the University's service to the entire scientific community of our state: to industrial research establishments, to other University staffs and their libraries and, of course, to Rutgers scientists as well.⁶

Throughout the planning documents for the Library of Science and Medicine, emphasis is placed on convenient access to consolidated collections and physical access to the library building, which was constructed as a distinct physical structure separate from all other science buildings. Books, journals, and audiovisual materials were all considered and were to be adjacent to reading areas; flexibility centered on lighting and floor strengths for various arrangements of book stacks and reading areas; and the site was central to graduate and medical disciplines. The orientation of entrances to both the science and medical campuses and a tunnel to the medical school were all designed to facilitate physical access.⁷

Like the Library of Science and Medicine, the Agricultural Biotechnology and Plant/Life Science Complex, in which the Cook Information Resource Center will be located, is being funded by University, state, and federal sources. State support includes funds from a bond issue and the New Jersey Commission on Science and Technology, while federal support includes funds from the U.S. Department of Agriculture.

The library situation on the Cook Campus is similar to that on Busch before the Library of Science and Medicine was created. While there are a few small departmental book and journal collections, there is presently no library except for the specialized Bailey B. Pepper Entomology Library. The Library of Science and Medicine, the primary Rutgers library supporting Cook research and graduate study areas, is located some 5 miles away; while the Douglass Library, which has as part of its mission the provision of library services to Cook undergraduate students, is on an adjoining campus.

There are, however, important differences in the history of the two libraries: while Busch was undeveloped when the decision to build a library was made, Cook is already a richly developed science campus. In addition, ambitious future plans for excellence require improved access to information resources. The draft proposal document for the Cook Information Resource Center describes Cook College developing from a school primarily for agriculture to an institution engaged in leading-edge educational, research, and outreach programs:

Rutgers became the land grant university of New Jersey in 1864, which resulted in establishment of the Rutgers Scientific School with depart-

ments of agriculture, engineering and chemistry. The New Jersey Agricultural Experiment Station (NJAES) was founded in 1880. Teaching, research and service functions of the Scientific School and NJAES continued to expand until 1921 when the Scientific School became the College of Agriculture. Today, Cook College is the location of the College of Agriculture and NJAES.

Cook College/NJAES is the third largest College of Agriculture in the United States and a vital component of higher education in New Jersey. It provides resident instruction, research and cooperative extension programs with emphases in the food, agricultural, environmental and life sciences. These programs are designed to solve problems and present new knowledge to the State of New Jersey, the nation, and the world. Cook/NJAES highly qualified, widely diverse faculty are involved in teaching, research and scholarship, and a great diversity of instructional programs. Students have access to an array of courses and major fields of concentration in agriculture, environment, life sciences and biotechnology. Many Cook College graduates enter graduate study in law, business, medicine, dentistry, veterinary science, and other professional disciplines.

NJAES conducts research in production agriculture, food technology, fisheries management, aquaculture, human health and nutrition, and environmental and natural resources management. NJAES is located on Cook campus in New Brunswick with eight field stations throughout the state....

Practical information from the applied research of Cook College and the NJAES is transmitted to the "grassroots" through the highly regarded Rutgers Cooperative Extension, which has 21 county offices to serve New Jersey citizens. The Cook College Office of Continuing and Professional Education operates a comprehensive program of short courses and symposia which serve the needs of a diverse clientele in the program areas of the college and the experiment station. Administrative headquarters of Rutgers Cooperative Extension are located at Cook College/NJAES.⁸

The need for improved access to information is described as follows:

In a world of rapidly changing information and global approaches to finding the answers to agricultural, environmental, and health problems, a facility such as the Cook Information Resource Center is an essential

component of the quest for excellence. Achievement of the objectives that guide the strategic plan of Cook College/NJAES requires access to a facility which can provide students and faculty with rapid and efficient access to current information. The absence of such a facility or the inability to function at full capacity due to a lack of human, physical, or economic resources would seriously hinder achievement of these objectives.⁹

When the opportunity arose to equip a small library presence in a new, centrally-located science complex at Cook, the Rutgers University Libraries accepted the formidable challenge of providing access to the world of scientific information for a wide array of pure and applied scientific and technical subjects in a space of less than 2,000 net assignable square feet. Information technology helped Rutgers meet this challenge.

Electronic Resources: Using Tomorrow's Technology

While electronic resources were still in the experimental stage when the Library of Science and Medicine was built, the Cook Information Resource Center is being built at a time when a variety of choices for electronic access to information are available. The Information Resource Center will be able to use the best of both the electronic and paper worlds to respond to student and researcher needs for access to information without having to construct space for a large library collection and without requiring users to travel to the Information Resource Center to get the information needed.

The heart of the program concept for the Cook Information Resource Center is the extensive use of electronic resources to identify needed materials, which will then be delivered from other Rutgers libraries or procured by interlibrary loan. Although electronic access to materials is developing rapidly, collections of materials in traditional formats are still important components of any library program. Key components of the program for the Information Resource Center include small and current journal, reference, and reserve collections; CD-ROM and online indexes and full-text services; and staff to provide expert assistance with and instruction about electronic information sources. At base funding, users physically in the Information Resource Center will have access to various databases through a combination of a CD-ROM local area network running in the Information Resource Center and network access to resources outside the University. With improved funding, students in microcomputer laboratories anywhere at Rutgers, scientists

in their offices or laboratories, and users in the various Rutgers libraries will have access to the databases available through the Information Resource Center without having to visit. Users who do come to the Information Resource Center will be able to extract, manipulate, and combine data with powerful workstations that permit such advanced techniques as molecular modelling.

The physical layout of the Information Resource Center has all the attributes of the Library of Science and Medicine with an overlay of electronic capabilities. Display shelves for current periodicals and wall shelves for reference materials will be convenient to table seating, while four comfortable lounge chairs represent the scientific seminar room at the Library of Science and Medicine. Microcomputers will be adjacent to the service counter so that expert assistance is handy.

The central location of the Complex will make it easily accessible to students of both Cook and Douglass Colleges. Prominently situated on the border of the Cook and Douglass campuses, the Complex is symbolic of the importance of science education at both of the colleges. In particular, its location close to the residence program in Bunting-Cobb Mathematics and Science Hall recognizes the importance of efforts at Douglass College to foster development of women in science and future support for that effort through Cook instruction programs.

Planning for the Cook Information Resource Center has passed several milestones. Its program was accepted for inclusion in the overall building concept document, floor layouts are complete, and furniture has been selected. A funding proposal for the new staff and operating budget which will be needed has been submitted to the University administration. Cook and library faculty and staff are working with the University Foundation to raise funds for the computer equipment and software needed above and beyond the shelving and furniture which are budgeted as part of the construction project.

The technical plan for the Information Resource Center was extensively reviewed in early 1992 by Cook College, university computing, and library representatives and will be reviewed again at least six months before opening. These reviews are necessary because the Information Resource Center will rely on state-of-the-art technology as it will exist in 1994, a technology which is in such dynamic development that planning for the Information Resource Center is at times very much like taking aim at a moving target.

The Future

The Information Resource Center will be located on an outside wall of the Agricultural Biotechnology and Plant/Life Science Complex so that it can be expanded in the future. Electronic development may, however, preclude that necessity. As electronic journals become available at the student's or the scientist's desk top or lab bench and as document delivery systems become faster, more reliable, and cheaper, the need for proximity to a warehouse of paper books and journals, like the Library of Science and Medicine, should become unnecessary.

Like the Library of Science and Medicine, it is intended that the Cook Information Resource Center make a strong contribution to the broader scientific and agricultural communities of New Jersey. The shape of that contribution will depend upon the extent to which the Information Resource Center is able to procure the new computer technology on which it will depend. There is no question but that the Information Resource Center will contribute to the educational and research goals of Cook College and to the support of the women in the science program of Douglass College. The commitment of the state university to provide well-educated men and women in science and technology which was requested by the Governor in the 1960's is still alive and well.

Notes

¹ "A Proposal for an Information Resource Center in the AgBiotech and Plant/Life Sciences Complex at Cook College," Rutgers University, p. 6.

² Project Proposal: Building for the Library of Science and Medicine, September 27, 1965, P. 3-4.

³ Roberta Tipton, "Continued Controversy: The Rutgers Medical School and the Library of Science and Medicine," *The Journal of the Rutgers University Libraries* 45 (June 1983): 7.

⁴ Tipton, p. 10.

⁵ Tipton, p. 9.

⁶ Mason Gross, "Rutgers Science Reference Center," *New Jersey Business* 9 (April 1963): 33, 49.

⁷ "Preliminary Design Analysis Report," October 1966, p.1, in NLM Construction Grant Proposal, November 1, 1966.

⁸ A Proposal for an Information Resource Center in the AgBiotech and Plant/Life Sciences Complex at Cook College, Rutgers University, p. 2-3.

⁹ *Ibid.*, p. 4.

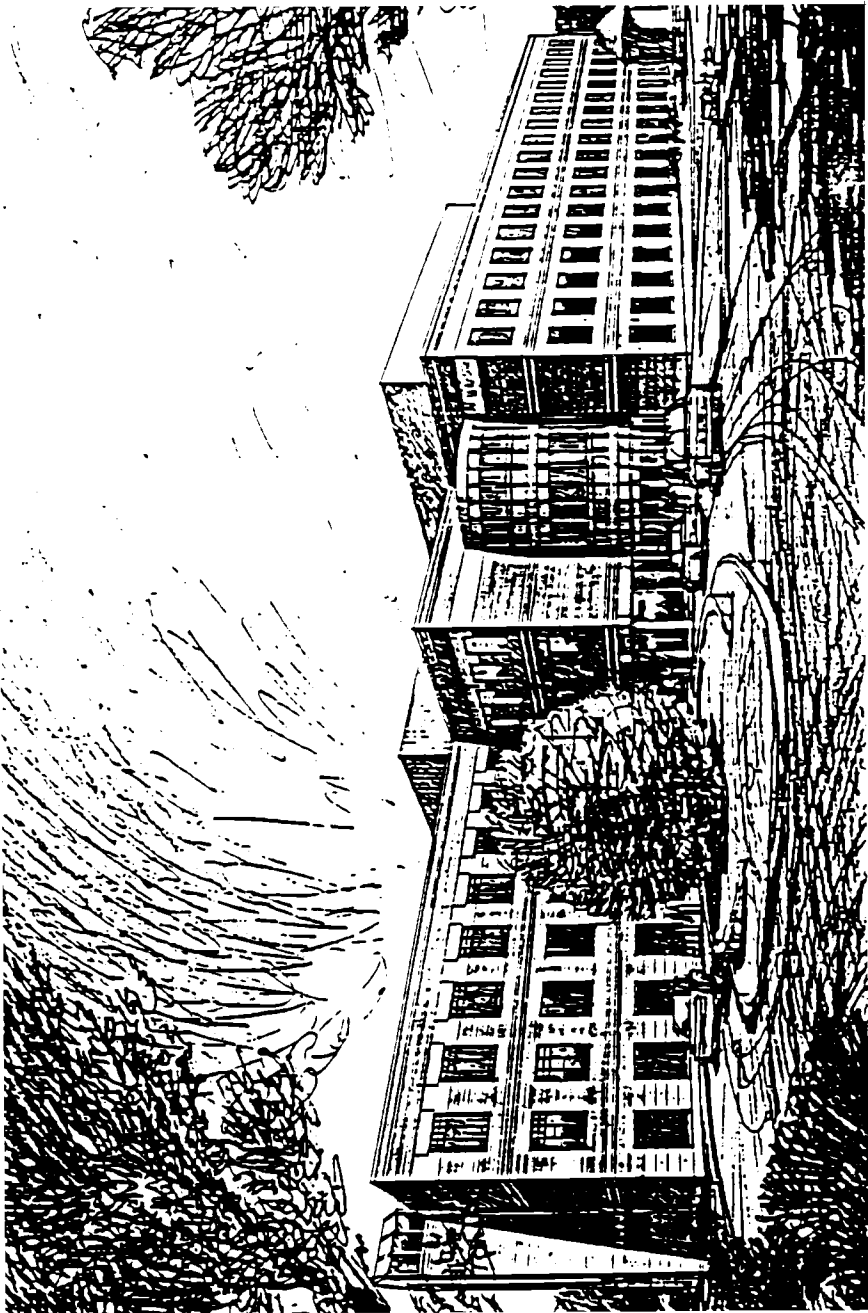


Fig. 6.1 Cook/Douglass Campus: AGBIOTECH and Plant/Life Science Complex (to be completed in 1994)